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ANTHROPOLOGICAL INSTITUTE
GREAT BRITAIN AND IRELAND.

DECEMBER 9TH, 1890.

FRANCIS GALTON, Esq., F.R.S., *Vice-President, in the Chair.*

The Minutes of the last meeting were read and signed.

The following elections were announced :—

The Hon. Lady WELBY, of Denton Manor, Grantham.

R. W. SWINNERTON, Esq., of Ellickpore, Berar, India.

The following presents were announced, and thanks voted to the respective donors :—

FOR THE LIBRARY.

From the AUTHORS.—An Album of the Weapons, Tools, Ornaments, Articles of Dress, &c., of the Natives of the Pacific Islands. Drawn and Described from examples in public and private collections in England by James Edge-Partington. Issued for Private Circulation by James Edge-Partington and Charles Heape.

From the DEUTSCHE GESELLSCHAFT FÜR ANTHROPOLOGIE, ETHNOLOGIE UND URGESCHICHTE. Correspondenz-Blatt. 1890. No. 9.

From the ROYAL SCOTTISH GEOGRAPHICAL SOCIETY.—The Scottish Geographical Magazine. Vol. vi. No. 12.

304 LADY WELBY.—*An apparent Paradox in Mental Evolution.*

From the INSTITUTION.—Journal of the Royal United Service Institution. Vol. xxxiv. No. 154.

From the SOCIETY.—Journal of the Society of Arts. Vol. xxxix. Nos. 1984, 1985.

— Proceedings of the Society of Biblical Archæology. Vol. xiii. Part 1.

— Proceedings of the Royal Geographical Society. Vol. xii. No. 12.

— Proceedings of the Philosophical Society of Glasgow. Vol. xxi. 1889–90.

— Journal of the Proceedings of the Royal Society of Antiquaries of Ireland. Fifth Series. Vol. i. No. 3.

— Journal of the Royal Statistical Society. Vol. liii. Parts 1, 2, 3.

From the EDITOR.—The American Antiquarian. Vol. xii. No. 6.

— Nature. Vol. xliii. Nos. 1100, 1101.

— Science. Vol. xvi. No. 406.

— Revue Scientifique. Tome xlvi. Nos. 22, 23.

The following Paper was read by the Secretary :—

An apparent PARADOX in MENTAL EVOLUTION.

By HON. LADY WELBY.

Two facts seem to be indispensable to the idea of evolution :—

(1.) Appropriate reaction to stimulus, direct or indirect.

(2.) The invariable tendency of such reaction on the whole in the direction of the development, preservation, and reproduction of life.¹

If, therefore, we suppose a general and grave departure from, and even in some cases an actual reversal of this order, we become responsible for a tremendous leap. We are bound to justify this by irresistible evidence that the facts on which we

¹ "Each acquirement serves as a stepping-stone to the next and each new response is made easier by those previously rendered possible. In this way the correspondence between the organism and the outside world gradually becomes, as Herbert Spencer has urged, both more precise and complex. By slow degrees a more and more harmonious relationship between the two is brought about, the degree of complexity of which we are left to gauge principally by an estimate of the character of the movements executed in relation to the stimuli from which they immediately or remotely proceed." Bastian, "Brain, Organ of Mind." "The tendency at any one moment is simply towards more life, simply growth; but this process of self-preservation imperceptibly but steadily modifies the self that is preserved." Ward, "Psych.," "Encyc. Brit.," p. 72. See also Brown-Séquard, "Forum," August, 1890, p. 643; Maudsley on "Cerebral Cortex and its Work," "Mind," No. 58, pp. 168, 169.

rely are really accounted for by our theory.¹ And we have also to ask whether they could not be as well accounted for on some hypothesis which involved an unbroken continuity from the earliest to the latest phases of development.² Looking at mental evolution from this double point of view, and taking such reliable traces or evidences as we have of the working of primitive minds, what then do we actually find? We begin with an "environment," and an organism in perfect "touch," the external world everywhere impressing itself and its practical meaning on the organism, and the penalty of non-survival everywhere attaching itself to the crime of non-response.³ But suddenly, just when a certain form of organic energy—that which we call brain-power or intelligence—has reached a given point in complexity, this tie apparently breaks.⁴ The energies, till then so economically employed and always making for life, become fatally spendthrift and reckless.⁵ All the long and severe training in appropriate reaction and orderly adjustment counts for nothing; elimination falls into abeyance; and except in the lowest levels of response—like that of selecting proper food—primitive man has to begin from the beginning to understand the world he lives in, and to act accordingly. The result naturally is that the sub-human animal surpasses the human in the very characteristic which gives the man his point of advance, intelligent reaction to reality. For no animals waste time,

¹ "Of the origin of animism perhaps no perfect account has yet been given. It can hardly be said to be obvious why, in uncultured races or individuals, there should arise that invariable tendency to represent natural forces as conscious and anthropomorphic. There remains, however, the difficulty of understanding by what process this rudimentary doctrine of the soul has grown into the great system of developed animism; a system of thought so comprehensive as to hold all nature in a web of vital action and spontaneity; so multiform as to invent some new spirit-race for almost every fresh order of phenomena; so coherent as to create a perfect plexus of ideas that mutually support and interpret one another; finally, so persistent, that even its more extravagant developments can survive for ages in defiance of accurate knowledge." Oughter Lonie, "Animism," *Encyc. Brit.*, pp. 55, 56.

² "In this organisation of experiences which constitutes evolving intelligence, there must be that same continuity, that same subdivision of function, that same mutual dependence, and that same ever-advancing consensus, which characterise the physical organisation." Spencer, *Princ. of Psych.*, vol. i, p. 388. See also Ward, *Psych.* ("Theory of Presentations"), *Encyc. Brit.*, p. 192; Max. Müller, "Natural Religion," pp. 162, 163; Ladd, *Phys. Psych.*, pp. 18, 19, 199, 618; Foster, *Text Book of Physiology*, part 1, p. 8.

³ Lloyd-Morgan, "Animal Life and Intelligence," pp. 243, 300. See also Darwin, "Descent of Man," pp. 94-96.

⁴ Darwin, "Descent of Man," pp. 82, 83.

⁵ "To such an extent is this provision for the future life of the deceased carried, as, in many cases, to entail great evil on the survivors. Concerning some Gold Coast tribes, Beecham says, 'a funeral is usually absolute ruin to a poor family.'" Spencer, *Princ. of Sociology*, vol. i, pp. 202, 203.

health, energy, hard-earned food, and shelter on the non-existent, much less on the positively "dead." Still less are they so imbecile as to immolate in terror or in honour thereof the finest specimens of their race. But this (under the idea of "ghost" and its equivalents) is just what early man is credited with doing; not fitfully or accidentally, but deliberately and persistently.¹

Still, it may be objected, there is no doubt of the facts. The imagination of "early man" did really play him false in this wanton fashion. Everywhere we find ghost or spirit, fantastic and grotesque animism, fetish² or totem, cult and myth. And so it may be urged, we are justified in accepting this strange anomaly; vaguely referring it, perhaps, to the analogous fact that the human child's muscular adjustments are less developed than those of the young of sub-human animals both at low and high organic levels. But then the baby does not try to suck with its nose, or later, to crawl on its back; and the child does not cringe to its own toys, or feed its own shadow.³ No doubt it makes great mistakes and requires to have them corrected.⁴ But these are not circumstantial, consistent, and elaborate as in the case of ancient superstition, nor do they include a morbid attention to or delusive inferences from the phenomena of death. And so far as children are "animistic," it is distinctly, as Mr. Herbert Spencer points out, on the dramatic ground.⁵ They are born mimics and "actors." Still it may be pleaded that as man in his childhood had no elders to teach him better, he stereotyped his fancies, and they have become, like other habitual tendencies, organised and perpetuated. But even thus we have to show why the yet earlier correspondence has become so ineffective as to permit such perpetuation; and why the nascent figurative power should wander so far astray.⁶ Mr. Spencer often dwells on "the pertinacity with which the oldest part of the regulative organisation maintains its original trait in the

¹ E. Reclus, "Primitive Folk," p. 304, *et seq.* See also Dorman, "Origin of Primitive Superstitions," pp. 208-13. Ellis, "Tshi-speaking Peoples," p. 171, "Ewe-speaking Peoples," p. 117, *et seq.*

² It will, however, be borne in mind that, as Major Ellis shows, "the confusion which has resulted from the improper use of the term 'fetish' is extreme, and is now probably irreparable." "Tshi-speaking Peoples," p. 178.

³ "A child's mind is like an animal's; it is intensely practical. Ideas, as such, do not appeal to it. The thing, the action, is what the child is after." Dewey, "Logic of Verification," "Open Court," April 24th, 1890. See also E. Reclus, "Primitive Folk," p. xii.

⁴ M. Foster, "Central Nervous System," p. 1069. See also Spencer, "Princ. of Psych.," vol. i, pp. 409, 410.

⁵ Spencer, "Princ. of Sociology," vol. i, p. 144.

⁶ Spencer on "Space Consciousness," "Mind," No. 59, p. 320. See also Maudsley on "Cerebral Cortex and its Work," *Ibid.*, No. 58, p. 179.

teeth of influences that modify things around it"; but here we have to wonder at the fatal ease with which it is lost. The work of the senses is to relate our notions and actions rightly to our environment, and enable us so to respond to it as to accomplish the organic aim. But these senses in man are related to a specially developing brain.¹ Leaving questions of "design" on one side, we find a gradual emergence of ever higher types of activity, depending throughout on unbroken correspondence between thing and thought. We know at least that this is the secret of the optical process; it ought to be that of the "visionary," or at least of the "speculative" process.² But the metaphors of seeing often express to us, by a suggestive paradox, the most dangerous forms of blindness. Why? A physical touch goes from the skin-point to the proper nerve-ganglion and back again on another line; appropriate muscular action follows. But a touch of "emotional" experience seems to go to some "imaginative" centre at random, generally therefore setting the wrong mental muscles in motion. Where then does the imaginative message lose its way, strike the wrong line, evoke inappropriate response, and remain unable even to right itself?³

The link with nature and fact that the developing gift which we call "mind," seems at one stage to have lost, is the power to pass through appearances to reality, in the sense of ignoring illusory and detecting actual characters.⁴ The animal which is deceived by illusion or simulation is in the long run "eliminated." The animal which survives is the one that penetrates all deceptions of appearance and escapes being ensnared by them. And the same is of course true in a more mechanical sense of the plant, and below that again in a purely mechanical sense, of all inorganic substances.⁵ Why then did not this primordial order of things translate itself inevitably into the mental process at its first inception, balancing and directing the budding representative power?⁶ We have here no question of scientific or logical acumen, or of any of the subtle products which belong to a later stage of mental growth; no question of "knowing"

¹ Foster, "Central Nervous System," p. 1065.

² James, "Princ. of Psych.," vol. xi, pp. 179, 180, 306. See also Ladd, "Phys. Psych.," pp. 455, 456; Ribot, "Psych. of Attention," p. 11.

³ "The process is in fact much less simple than this, and the term 'reflex action' is now complained of on this ground." Comp. Foster, "Central Nervous System," p. 906. See also Crichton-Browne, "Hygienic Uses of Imagination," "Brit. Med. Journ.," Aug. 24th, 1889; Maudsley, "Theory of Vitality," pp. 298, 311, 312.

⁴ James, "Princ. of Psych.," vol. ii, pp. 384, 385, 387. See also Ladd, "Phys. Psych.," pp. 464-7.

⁵ "Lewes, "Problems of Life and Mind," pp. 69, 118, 119.

⁶ Spencer, "Princ. of Psych.," vol. i, pp. 317, 353.

why or how, or knowing a "self," that knows, but simply of organic correspondence with natural fact in full and healthy work.¹ Man is closely related to all nature, and his ancestry does not end with the animal or even with the organic order; "within" him as "without" are found the same vibrations and the same elements.² Thus it ought to be difficult for mere appearances to mislead the primitive mind.³ Everything fosters the tendency to persist in old grooves; a new departure involves a distinct and even painful effort.⁴ And the delusive ideas which prompt wasteful or injurious action would always lead indirectly to the non-survival of the false thinker.

Comparing then the respective developments of the individual and the race, it would seem that the lowest and the highest centres are firmly linked to and controlled by natural reality, the influence of which vindicates itself in all their varied forms of activity.⁵ Just as the retina gives us a faithful picture of external objects, so the geometrician or mechanician draws us a trustworthy diagram of abstract or concrete forms or paths which "matter" and "force" actually take.⁶ But

¹ "There is an ambiguity in the words 'know,' 'knowledge,' . . . 'to know,' may mean either to perceive or apprehend, or it may mean to understand or comprehend. Only when we rise to intellectual knowledge is it true to say, 'no one could understand the meaning of a straight line without being shown a line not straight, a bent or crooked line.'" Ward, "Psych.," "Encyc. Brit." ("Theory of Presentations"). " . . . what is in consciousness is not necessarily in a clear analytic consciousness; and that we may by a process of deductive reasoning be sure that certain elements are present as factors in a given mental state, while we are yet quite unable to call these elements into a clear analytic consciousness, separated from certain other elements bound to them by long association and habit." Fullerton, "Mind," No. 42, p. 192. See also Lloyd-Morgan, "Animal Life," &c., pp. 308, 365; J. Solomon, "Mind," No. 58, pp. 264, 265; Darwin, "Descent of Man," p. 122.

² Tyndall, "Fragments of Science," vol. xi, pp. 46, 48, 355-7. See also Fiske, "Outlines of Cosmic Philosophy," vol. i, pp. 408, 415; J. McK. Cattell on "Wundt," "Mind," No. 51, p. 436, 437, 439; Winwood Reade, "Martyrdom of Man," pp. 462-7; Ellis, "Tshi-speaking peoples," pp. 325, 327-8.

³ "Animate beings are conceived by every individual, at a very early stage, as possessing internal activity similar to his own, but there is no necessity whatever, nay everything speaks against it, for his also investing with such an activity things moved only by animate beings." J. Pikler, "Mind," No. 59, p. 398. "The paramount influence which surrounding nature has on the development of the human being is unquestionable. It is the more powerful the nearer the people is to the uncultured state, and diminishes in proportion as human art and science gain the power over the forces of nature. For this reason a primitive people ascribe spiritual agencies to those results of nature's laws not understood by them." Dorman, "Origin of Primitive Superstitions," pp. 335, 386.

⁴ " . . . the origin of attention is very humble, and its primitive forms have actually been bound up with the most exacting conditions of animal life." Ribot, "Psych. of Attention," p. 32. James, "Princ. of Psych.," vol. ii, pp. 415-441.

⁵ Lewes, "Problems of Life and Mind," vol. i, p. 145.

⁶ "But what we mean by the universe is the sum of our actual and possible

between the two there lies this fatal zone of falsity, of untrustworthiness, of record, and report. Why do the "middle centres," that is, the imaginative, the emotional centres, run wild in unwholesome beliefs and practices, so deeply implanted in the mind-tissue of the race, that we can identify some of them even now?¹ The highest centres at every stage are in some senses centres of control. Relax them and you release the next lower in grade to over-act their part.² Do we suppose then that the race has really passed everywhere through a stage of promiscuous and disorderly mental action, out of which or through which it nevertheless has dragged intact the sound root of accuracy and order?³ Every mental image would presumably be saturated with what we are now told to call "organic memories." No doubt we could not expect that this would carry man far in acquiring knowledge. But surely it would have checked and tended to starve out, after a brief reign, the senseless versions of natural fact which we find stereotyped for long ages in the history of man?⁴ Baseless vagaries would of course have arisen, but they would surely have withered for lack of nutriment, either in organic tradition or from external experience, so imperious in those days and so rigorous in its penalties. They would have been essentially evanescent, and liable to clash with and efface each other. They would even lack the favourable conditions for survival that the civilised child's fancies have. He is under no ceaseless danger pressure like that of the primitive youngster, dependent every moment, like his parents, on the keenness of his perception and the

impressions. . . . Form and number are mere names for certain relations between matters of fact; unless a man had seen or felt the difference between a straight line and a crooked one, straight and crooked would have no more meaning to him, than red and blue to the blind." Huxley on "Hume," p. 118.

¹ A. Lang, "Myth, Ritual, and Religion," vol. i, pp. 8, 9, 11, 29-30. See also Baldwin, "Handbook of Psych.," pp. 217, 267.

² "The doctrine of evolution implies the passage from the most organised to the least organised, or, in other terms, from the most general to the most special. Roughly, we say that there is a gradual 'adding on' of the more and more special, a continual adding on of new organisations. But this 'adding on' is at the same time a 'keeping down.' The higher nervous arrangements evolved out of the lower keep down those lower, just as a government evolved out of a nation controls as well as directs that nation. If this be the process of evolution, then the reverse process of dissolution is not only 'a taking off' of the higher, but is at the very same time a 'letting go' of the lower." Hughlings Jackson, "Croonian Lectures," 1894. "As we rise to higher and higher planes of function we enlarge the office of inhibition. Every higher order of motion regulates, or in other words inhabits, that of the order below. . . ." Clifford Allbutt, "Address at Glasgow," 1888, "Brit. Med. Journ.," August 11th, 1888.

³ Baldwin, "Handbook of Psych.," pp. 158-60, 222, 223.

⁴ "A being had arisen who . . . knew how to control and regulate (nature's) action and could keep himself in harmony with her, not by a change in body, but by an advance of mind." Wallace, "Natural Selection," p. 325.

vigilance of his outlook. And he has not got to make his traditions and secure their acceptance and persistence! For the real crux lies in consensus and permanence.¹ The fleeting fancy which comes and goes, incessantly shifting and changing, is a very different matter; and no extravagance in that need cause surprise or question. Further: the pre-intellectual test is first contact, then odour and flavour.² Thus if the primitive individual mind has ever so vivid a dream or waking illusion, it must soon begin to fade and die out unless constantly revived by the sense-tests until then all-dominant.³ Sight is the highest and most intellectual sense.⁴ The primitive man, obliged sometimes to search for food and evade enemies and dangers in the dusk, would rely much on smell and touch.⁵ How do we suppose then that this condition can be satisfied when the "ghost" comes upon the scene?⁶ Let us however, assume this "ghost," and take first the most obvious of the ideas which it indicates, that which the word "spirit" conveys,—Breath.⁷ How did early man come by the idea of a "breath" which survived, and could not merely exert force like wind, but for instance, listen, walk, and eat? At what point did this gratuitous absurdity begin? Supposing a tribal "chief" dies

¹ "Up to this point we have only examined, in our investigation of the mechanism of attention, the external impulsion arising from stimuli and surroundings which causes it to pass from one form to another. We now come upon a much more obscure question, namely, the study of the internal mechanism through which a state of consciousness is laboriously maintained in the face of the psychological struggle for life which incessantly tends to make it disappear. . . . The whole problem consists in this very power of inhibition, of retention." Ribot, "Psych. of Attention," pp. 45, 46. A. W. Howitt, "Journ. Anthr. Inst.," August, 1886, pp. 26, 52.

² "From moment to moment (the untaught human being) sees things around, touches them, handles them, moves them hither and thither. He knows nothing of sensations and ideas—has no words for them. . . . His senses make him conversant only with things externally existing, and with his own body; and he transcends his senses only far enough to draw concrete inferences respecting the actions of these things. An invisible, intangible entity, such as Mind is inferred to be, is a high abstraction unthinkable by him, and inexpressible by his vocabulary." Spencer, "Princ. of Sociology," vol. i, p. 147.

³ Spencer, "Princ. of Psych.," vol. i, pp. 387, 388, 390, 391.

⁴ Lewes, "Problems of Life and Mind," vol. i, p. 131.

⁵ Spencer, "Princ. of Psych.," vol. i, p. 362. See also Whittaker on "Volk mann's Psych.," "Mind," No. 50, p. 494.

⁶ "Of course an insane person may make mistakes; and he is not less liable to do so than other people. But his insanity does not consist in making mistakes; it consists in his inability to recognise that they are mistakes, when the conditions requisite for making such a recognition are afforded him." Mercier, "Nervous System and the Mind," p. 251.

⁷ "The act of breathing, so characteristic of the higher animals during life, and coinciding so closely with life in its departure, has been repeatedly and naturally identified with the life or soul itself." Tylor, "Primitive Culture," vol. i, p. 432. See also Croom Robertson on "Siebeck," "Mind," No. 38 pp. 293-5. Ribot, "Psych. of Attention," p. 20.

his "ghost" leaves his "body" as "breath." No doubt the concurrent departure of the "breaths" of his wife and slaves might suggest a breath-community in a breath-world of which individual puffs or sighs might make up wind. And again, the smoke-columns of the funeral pyre, as they were seen to be gradually dissipated, might well be supposed to turn into air.¹ Why then do we not find everywhere a supreme Wind-Deity,² and a swinging fetish to represent the sacred breath-rhythm,—and the heart-beat too?³

Again. Taking certain features of universal experience as the possible source of the most conspicuous class of these vagaries, we have to distinguish the ideas of:—

- (1.) Voice and its echo.
- (2.) Object and its shadow.
- (3.) Object and its reflection.

(4.) The energy and matter, work-force and stuff of an object; its power to be useful and its tangible mass. All four contrasts are of course reflected in dream.⁴

(1.) Here we have apparent separation in space but complete reproduction in character, although in lessening intensity. Before taking the other points, which are all more or less related to sight, it may be suggested that the primitive ear, rendered acutely discriminative by the constant presence of danger, would be less liable to mistake the echo for an independent voice than the civilised one would be. It could not fail to note the invariable repetition in every detail of sounds which could be accounted for in the usual way.

(2.) Here there is complete distinctness, but the shadow has only the outline produced by obstructed light; no idea of content is given.

(3.) Here we have reproduction in the flat or in the solid; *e.g.*, in the mirror or in an artificial copy. The two are again separable.

(4.) Here we can no longer separate or even distinguish, except mentally.

It follows therefore that while it might well seem possible to distinguish and dedicate to the ghost the meat-shadow or meat-reflection or imitation-meat, the impalpable nourishment of

¹ Dorman, "Origin of Primitive Superstitions," pp. 349, 351.

² Since writing this, I find that Professor Max Müller ("Physical Religion," p. 310), contends that we often do find the storm wind prominently deified. But as he himself subordinates it fire and connects it closely with thunder, sky, &c., I leave the passage as it stands.

³ "The further question as to the comparative non-use of words for 'blood' to express 'soul,' like many other such questions, cannot be here advanced for want of space.

⁴ Spencer, "Princ. of Sociology," vol. i, pp. 192-5, *et seq.*

meat could not be so dedicated because it could not be similarly distinguished, nor would it be perceptible as in the other cases by any of the senses. So with the weapon or tool.

But loss of work-power is shown by signs of wear. If the supposed "ghost" deserted his super-sensuous sphere and took to using real weapons and tools and consuming real food, his devotee would find the first worn and blunted; while, if it was supposed that in this one case the ghost (or good) of the food could be taken and all the rest left, the food after use would acquire an abnormal appearance of which the natural analogue would be the waste product after assimilation. This, for practical reasons, would strike the earlier more forcibly than the later mind.¹ For advancing civilisation tends to ignore that side of life; besides which the increase of abstracting power tends to distract attention from the physically concrete. At all events we should expect to find everywhere traces of a simple and clear distinction between tangible things for actual men (or beasts) and intangible things for imaginary ones.² In very early times "visions" are procured by fasting or intoxicants; so that the idea of providing visionary food would naturally thus find expression. And would there not be attempts to provide with a dedicated object its shadow or reflection? (the effigy we do find in some cases). But that would not be enough with the food. The most deeply established test of the consumption of food would be its disappearance when devoured. Take a man who devotes part of an animal he has killed to the making of a meal for his dead ancestor, keeping the rest for his own family. Credit him with the supposition that the meat has a ghostly identity or double like that which leaves the body at death, that this is what does him good when he eats, and is what the ghost requires and consumes.³ But the dedicator cannot help observ-

¹ "In childhood we feel ourselves to be closer to the world of sensible phenomena, we live immediately with them and in them; an intimately vital tie binds us and them together." Griesinger, "Mental Diseases," sec. 50, 98 (quoted by James, "Princ. of Psych.").

² "The savage thinks of (life) as a concrete material thing of a definite bulk, capable of being seen and handled, kept in a box or jar, and liable to be bruised, fractured, or smashed in pieces." Frazer, "Golden Bough," vol. ii, p. 296. "It is the doctrines and rites of the lower races which are, according to their philosophy, results of point-blank natural evidence and acts of straightforward practical purpose." Tylor, "Primitive Culture," vol. i, pp. 496-502.

³ "With regard to solid food, they believe that the gods make use of the spiritual part of it, leaving the material portion behind." Ellis, "Tshi-speaking Peoples," pp. 73-74. "One sequence of the primitive belief in the materiality of the double is the ministering to such desires as were manifest during life. Originally this belief is entertained literally: as by the Zulus, who in a case named said, 'the Ancestral spirits came and eat up all the meat, and when the people returned from bathing, they found all the meat eaten up.'" Spencer,

ing, sooner or later, that precisely the same result happens in the case of the devoted and the undevoted food. The ghost has taken the good of the one, no one has taken the good of the other. Then let him profanely eat (as, under stress of famine, must surely have sometimes happened), and the food is found to feed him still; the food-ghost has not been consumed! The same thing applies to dedicated corn, if planted later under stress of starvation. And are we to suppose that the devotee makes a distinction between the usefulness of the slave and the usefulness of food? Or does he class the life of the one and the feeding powers of the other in the same category? Is he supposed to notice that after "breath" has left an edible animal another kind of "ghost" remains, which is what the ghost-ancestor or chief wants to absorb as a hungry man does?¹ Of course in one case the practical course seems obvious. The ghost-chief wants a ghost-slave. Then, say the devoted survivors, let us kill one, and release the ghost to go to his master. But they do not thereby send his shadow or his reflection to ghost-land. His dead body continues to cast both. How is it then that they jump to the conclusion (of which there is no evidence in the practical sphere) that the life-force, identity, or "breath" are gone there? Why did not these take with them

"Ecclesiastical Institutions," pp. 673-78. See also Huxley (quoting Lippert), "Evolution of Theology," "Nineteenth Century," March, 1885, p. 355, note; and Tregear's "Maoris," "Journ. Anthr. Inst.," November, 1889, pp. 120-21.

¹ I had never seen this point noticed when the above was written. I now find the following passages in Ellis's "Tshi-speaking Peoples." "This word *kra*, though generally interpreted 'soul,' does not at all correspond to the European idea of a soul; for it is the man himself, in a shadowy or ghostly form, that continues his existence after death in another world, and not the *kra*. The latter is rather a guardian spirit, who lives in a man, and whose connection with him terminates at his death," p. 149. "We, too, have a very similar notion to this of the *kra*, and which is probably a survival of such a belief. A living man is believed to be tenanted by another individuality which is termed a soul, and which reasons with man through what is called 'conscience.' When the man dies, however, we make the soul to go to the next world, instead of the shadowy man; but a good deal of confusion exists in our ideas on this point, and the belief in ghosts, the shadowy outlines of former living men, seems to point to a time when each of the two original individualities was believed to pursue a separate existence after the death of the man." *Ibid.*, p. 155. See also his "Ewe-speaking Peoples." "This belief in every animate and inanimate natural object having two individualities besides its tangible one, will perhaps help to explain much that is still obscure as to the origin of Nature Worship. It must be borne in mind that the *kra* is not the soul, for the soul, in the accepted sense of the word, is 'the animating, separable, surviving entity, the vehicle of individual personal existence,' whereas every *kra* has been the indwelling spirit of many men and probably will be of many more." (This seems to imply the need for reconsidering the whole subject in the light of fresh observation.) "Europeans, holding as they do the belief in one 'soul' only, are naturally prone to misconceive a native's idea of two 'souls,' unless, which is rarely the case, they are aware that such a belief is known to exist among certain peoples." *Ibid.*, p. 17.

what had always been associated with them and even reckoned in the same ghostly category.¹

But here we are confronted with the dream theory. The dead ancestor has been seen in dreams, therefore the descendants are sure that he lives somehow and somewhere, and all the rest follows.² Yet surely it would sometimes strike the immolators forcibly that it did not invariably follow that next time they dreamt the chief they dreamt the slave, to correspond with the new state of things. Dreams are not now and surely never can have been as coherent, consistent, invariably repeated as such an idea would require them to be.³ Do we find anything to suggest that when a great chief died, he was dreamt by the dreamers as alone and destitute, while after his funeral with all its attendant ceremonies of provision, he was dreamt surrounded and provided as in life? If not, would not the waste of precious property strike men who had produced or acquired it at much cost of effort, and who had the strongest reasons for laying stress on its absence or presence in all the world they knew of?

The primitive man's digestive process, so far as he was occasionally conscious of it, would surely be his natural "origin" of the "inner." Cultured man connects "dreams" as he does "reflection" with an "inner" which he has acquired metaphysically—in an advanced mental stage.⁴ But to early man if not "outer" reality the dream would only be "inner" in the mucous membrane or the "digestive cavity" sense.⁵ And this sense of "outer" and "inner" may well be launched with us into the world of mind at its earliest stage, since as ectoderm and endoderm it belongs to the first differentiation of the starting-cell.⁶ Therefore, everywhere touch, taste, and smell,

¹ Ellis, "Tshi-speaking Peoples," p. 19. See also "Ewe-speaking Peoples," pp. 105-6; Tylor, "Primitive Culture," vol. i, p. 430.

² Howitt, "Journ. Anthr. Inst.," August, 1886, p. 55. See also Tylor, "Primitive Culture," vol. i, pp. 478, 496, 502.

³ "No class of psychical phenomena has received less illumination from science than dream. Some psychologists pass them by altogether, while others are apt to deal with them in a very hasty and superficial manner. The reason of this neglect is not far to seek. In the nature of the case the facts are exceedingly difficult to reach." Sully on "Delbœuf," "Mind," No. 45, p. 115. "The influence of dreams is so great upon the life of the American Indians that every act and thought is predicated upon this superstition." Dorman, "Origin of Primitive Superstitions," p. 61.

⁴ Reville, "Hibbert Lectures," p. 87.

⁵ Winwood Reade, "Martyrdom of Man," pp. 171-2.

⁶ "The boundary between the internal and external was, no doubt, originally the surface of the body with which the subject or self was identified; and in this sense the terms are of course correctly used. . . . Yet, evident as it seems that the correlatives in and not in must both apply to the same category . . . we still find psychologists more or less consciously confused between 'internal,' meaning 'presented' in the psychological sense, and 'external'

would be the tests by which a visual impression would be tried and confusion averted, whether in the case of dream or of spectral illusion.¹

Again, one of the first traces one would expect to find of the organism's long reflex and automatic training would be an even keener sense in the primitive mind than in ours, of the incongruity of dream-events and objects.² Our range of conception has so widened that there is always a vague reservation or suspense in face of the strangest "surprises." The possibilities have so multiplied. But to our early ancestors the utter dislocation of ordinary experience in dreams would have made it difficult deliberately to accept them as fact, except so far as there was disorder of mind.³ For the more recent the emergence from the automatic level, the more inexorable the demand for the monotony of a normal sequence.⁴ Is not this in fact

meaning 'not presented' but corporeal or oftener extra-corporeal." Ward, "Psych.," "Encyc. Brit.," pp. 37-8. "The body becomes, in fact, the earliest form of self, the first datum for our later conceptions of permanence and individuality . . ." *Ibid.*, p. 56.

¹ "From the day of our birth we have sought every hour of our lives to correct the apparent form of things, and translate it into the real form by keeping note of the way they are placed or held. In no other class of sensations does this incessant correction occur." James, "Princ. of Psych.," vol. ii, pp. 259-60. See also, Frazer, "Golden Bough," vol. i, pp. 121-3; Ward, "Psych.," "Encyc. Brit."

² "The fundamental note of mental insanity, as of all errors of thought and feeling, is the want or loss of a just equilibrium between the individual and his surroundings; the disorder marking a failure of adaptation in himself which is often-times a congenital fault that he owes to his forefathers." Maudsley, "Mind," No. 48, p. 510. See also p. 501. "It is experience in the largest sense of that vague term—real apprehension, feeling and acting—that gives us a place among things and indeed makes these things to be for us." Adamson on "Lotze," "Mind," No. 40, p. 587.

³ "As life is a condition in which an intimate correlation exists between the individual and nature, it is evident that whilst Plato dealt only with ideas of the mind, his system must remain comparatively unprofitable; but it is evident also that since we have learnt to discover the laws or ideas in nature of which ideas in the mind are correlates, it becomes possible to find in nature an interpretation of Plato's true ideas. Once for all, it may perhaps be taken for granted that the ideas of genius can never be meaningless; for its mental life is a reflection in consciousness of the unconscious life of nature." Maudsley, "Theory of Vitality," p. 274. See also Spencer, "Princ. of Psych.," vol. i, pp. 453, 454.

⁴ "It is in fact one of the most fundamental truths in biology that the performance of functions, or in other words, the occurrence of actions of any kind in living matter, tends to occasion structural changes therein. . . . We have at first to do with mere reflex actions; in higher forms of life these actions increase so much in complexity as to become worthy of the name 'instinctive'; whilst in still higher organisms we have what are called 'intelligent' actions in increasing proportion; though always intermixed with multitudes of others belonging to the 'instinctive' and to the reflex categories." Bastian, "Brain, Organ of Mind," pp. 23-5. See also Spencer, "Princ. of Psych.," vol. i, p. 580.

(in some sense) the secret of the "logical consistency" which Mr. Herbert Spencer, Dr. Tylor, and others, point out in primitive inferences.¹ Dreams and delirium alike mean abnormal sequence, and therefore would be less likely by the primitive mind than by ours to be confounded with that real experience of which the secret is continuity. At a later stage we generalise more broadly, and are prepared to allow for larger margins of the possible.² If then we find it difficult to accept the ravings of the primitive mind as a natural stage in an orderly and continuous development of mental power, the concomitant of a brain-growth which certainly was that, what in fact should we have expected to find? Surely the reign of the "matter of fact"; a practical attention to material needs and dangers certified by the senses, and a gradual enlargement of its scope.³ The baby, never dreaming of efforts to turn somersaults or walk on a tight-rope, begins, when it is ready, to run, jump, dance, or climb, after it has achieved walking sedately, which is its first attempt beyond crawling.⁴ We nowhere find random or spasmodic action, convulsion or contortion, although these would make admirable metaphors for much early cult- and myth-making. But sight gives us here perhaps the most significant lesson, for therein the ascending series seems especially gradual and unbroken; up to the moment indeed where

¹ "We must set out with the postulate that primitive ideas are natural and, under the conditions in which they occur, rational. In early life we have been taught that human nature is everywhere the same. Led thus to contemplate the beliefs of savages as beliefs entertained by minds like our own, we marvel at their strangeness, and ascribe perversity to those who hold them. Casting aside this error, we must substitute for it the truth that the laws of thought are everywhere the same; and that, given the data as known to him, the inference drawn by the primitive man is the reasonable inference." Spencer, "Princ. of Sociology," vol. i, p. 111, comp. *Ibid.*, pp. 441-2; Tylor, "Primitive Culture," vol. i, pp. 22, 23, 285, 286.

² Spencer, "Princ. of Psych.," vol. i, pp. 425, 426.

³ "When the evolution of the living organism is traced upwards from the simplest forms to the most complex, and it is found that the evolution of mind proceeds *pari passu* with it, following the same laws and passing through the same stages, either evolution being expressed as a continual building up with the same elements, we have actual evidence that the one element goes with the other." Clifford, "Lectures and Essays," vol. i, p. 291. "Incoherences in experience cannot produce perplexity unless they engross attention with sufficient strength and persistency. This depends on the interest which they excite, and such interest for the comparatively undeveloped consciousness is mainly of a practical kind." Stout, "Mind," No. 57, pp. 29, 30. "Emotional excitement—and at the outset the natural man does not think much in cold blood—quickens the flow of ideas; what seems relevant is at once contemplated more closely, while what seems irrelevant awakens little interest and receives little attention." Ward, "Psych.," "Encyc. Brit." (The doctor or healer is thus more primitive than the priest on "practical" grounds.) See Dorman, "Origin of Primitive Superstitions," p. 354, *et. seq.* Cf. also James, "Princ. of Psych.," vol. ii, p. 258.

⁴ "Mercier, "Sanity and Insanity," p. 289.

even the eye is helplessly dragged into the whirl of folly and delusion—the point where we people nature with monsters, and *de-naturalise* the world we live in. We are accustomed to marvel at the feats of dawning intellect, *e.g.*, in the use of fire and metals, in the domestication of animals, in the making of weapons and tools, which we all agree in ascribing to the earliest times. Nay, more, we are learning further to wonder at the high æsthetic level sometimes attained in those early days. Take the case of the Cro-Magnon cave-men, whose drawings put most of the more modern art to shame, not (as we might have supposed likely) in freshness of fancy, but in physiological accuracy. So with the precision in measurement and skill in erection shown in very early examples of architecture.¹ But here at once we are brought up short by the motive, the mental impetus to which these were due. Once more we find the rising line of mental development as it were deflected; the upward energy begins, if not to fail entirely, at least to start aside and spend itself in morbid and unfruitful forms. Much indeed is actual “fall,” that is, reversal, degeneration. For we have just been following the “cult” of the living, which in fact begins where the organic itself begins. Now we begin to trace the undoing of all this, the “cult” of the dead.² And this, be it noted, just after we have begun to feel and express in a newly-acquired sense, the attraction of the one and the repulsion of the other.³ Modern research seems more and more to emphasize the paradox of elaborate wastefulness, even in cases where the economical bent of nature might be expected to exercise a specially inhibitive power; for example, those brought forward in Mr. Frazer’s “Golden Bough” and elsewhere, of unnatural treatment tending to injure the future mothers of a community. And it cannot be said that here natural selection reverses itself, having worked to a point where the up-growth of moral sense and intellectual power makes for the preservation of the physically unfit. In waste of energy and the barren cult not merely of death, but of disease and suffering, nothing is or can be gained; not even, as might be claimed for some mythical conceptions, an extension of true imaginative power. We are rather making that impossible, by substituting for a

¹ “We have to act in conformity with geometrical principles before we have the slightest power of framing a geometrical axiom.” Leslie Stephen, “Mind,” No. 54, p. 199. See also, Rénouf, “Origin and Growth of Religion,” p. 63.

² A. Lang, “Myth, Ritual, and Religion,” vol. ii, p. 82. See also Doran, “Origin of Primitive Superstitions,” p. 164; Ellis, “Ewe-speaking Peoples,” pp. 107, 111, 113.

³ Spencer, “Princ. of Sociology,” vol. i, pp. 142, 145.

healthy imagination an anarchy of practical delirium which demoralises its energies, disorganises its tissues, and taints its very sources.¹

One more point. We have been dwelling on the idea of the "ghost of the ancestor" as though it were sharply marked off from any idea of a "god" or "gods." But of course this would falsify the best evidence we have, and is indeed impracticable. As a fact, the difficulty is to draw any definite line between ghost, ancestor, parent, hero or tyrant, chief (and later, king), and god.

Professor Robertson Smith, for instance, points out that the relationship between gods and men was primitively conceived in the strictly literal sense of father and offspring. But as such a parentage could not be accepted on the same grounds as all other parentage known (since the main signs of physical reality were all missing), in what sense was the relationship conceived and accepted as "strictly literal?" How did gods and men make up a "natural family"?² This thought takes us far

¹ "However simple or complicated the circumstances, and however simple or elaborate the act by which they are dealt with, the same law obtains throughout, viz., every movement that forms a part of conduct, every act that can be considered intelligent, is an adaptation of the organism to surrounding circumstances; or, briefly put, conduct is the adjustment of the organism to its environment." Mercier, "Sanity and Insanity," p. 106. "Insanity, we find, is a disorder of the adjustment of self to surroundings. This adjustment of self to surroundings is effected by the highest of all the nervous arrangements, and the central and primary factor in insanity is the disorder of those arrangements." *Ibid.*, p. 138. "When he (the lunatic) attempts to think out an elaborate course of conduct he falls into a state of confusion. When he attempts to carry out an elaborate course of conduct he gets astray; he does things wrong, he makes mistakes, he fails to appreciate the force, and to estimate the comparative value of circumstances, and his acts are wrongly directed, confused, and muddled." *Ibid.*, p. 383. "The doctrine underlying disease spirits and oracle spirits is the same, however strange it may appear. Many of those most diseased and abnormal and morbid have for the same reason become the great religious and prophetic teachers of humanity." Dorman, "Origin of Primitive Superstitions," p. 52. (From which it would appear that man is an animal which tends to reckon as the best and highest, that which it learns from the representatives of distortion and failure in the race.) See also Maudsley, "Mind," No. 54, pp. 179, 183.

² "To the negro of the Gold Coast, Nyankupon is a material and tangible being, possessing a body, legs, and arms, in fact all the limbs, and the senses, and faculties of men. He is also believed to have passions similar to those of man. This, however, is but natural, and to the uncultured mind the conception of an immaterial being is impossible." Ellis, "Tshi-speaking Peoples," p. 29.

"Those tribes that have progressed and remember a former condition of greater savagery always describe that condition as one wherein they were animals. Of course the language is metaphorical at first; but this metaphorical language, in connection with the many animal superstitions that have survived their lower state, tends to make fiction grow into reality. A number of travellers have acknowledged that they never clearly understood whether the Indians believed that at one time all men were in the form of beasts or whether they were in the form of men, but with the nature, habits, and disposition of

indeed from the dream, the shadow, the reflection, the echo, the breath. Where, then, is the missing link? Our very idea of mental and spiritual inter-communion in any exalted sense is among the latest of mental products.

But are we not betrayed even by the ambiguities of language into ascribing such ideas to the primitive sense-bound mind?¹ Where and why do we suppose that early men broke away from the strongest ties they had—those to the actual—and where are we to look for the link which bridges the chasm between the sensuous and the non-sensuous, which in much early animism might well be spelt nonsensuous? Do not all the theories hitherto advanced really imply that the primordial mind had effaced all signs of its pre-intellectual ancestry and bequeathed to the earliest of its descendants of whom we can find traces, a practical *tabula rasa*?² Do they not one and all involve the assumption that primitive men had to begin from the very beginning in their responses to environment, instead of inheriting a tendency to right reaction or correspondence ingrained in them from protoplasmic days and in the protozoic nursery, a tendency, which has but to be carried over and utilised in every fresh departure in development.³

animals." Dorman, "Origin, &c.," p. 244, cf. p. 221. "That metaphorical naming may cause personalisation . . . we have good evidence." Spencer, "Ecclesiastical Institutions," p. 685. "Literal interpretation of metaphors leads to worship of heavenly bodies." *Ibid.*, p. 692.

The inconsistency of prevailing inferences on this and like points seems curiously exemplified in the above extracts. The first describes what is surely, on the usual premises, indisputable; the only doubt is whether the premises are sound and what further inference is justifiable. But the others apparently reverse it and credit the earliest mind with that power of consciously using the figurative which we usually claim for the highest culture. Did this insight, then, desert the increasing intelligence? Was experience powerless to modify the loss? See also Robertson Smith, "Religion of the Semites," pp. 30, 31, 83.

¹ Dorman, "Origin, &c.," p. 15. See also, Im Thurn, "Journ. Anthr. Inst.," May, 1882, pp. 361, 362, 375; Risley, "Journ. Anthr. Inst.," February, 1891, pp. 238, 250; Max Müller, "Natural Religion," pp. 149-156; Ellis, "Ewe-speaking Peoples," p. 101.

² "Differentiation implies that the simple becomes complex or the complex more complex; it implies also that this increased complexity is due to the persistence of former changes; we may even say that each persistence is essential to the very idea of development or growth. In trying, then, to conceive our psychological individual in the earliest stages of development we must not picture it as experiencing a succession of absolutely new sensations, which coming out of nothingness, admit of being strung upon the 'thread of consciousness' like beads picked up at random, or cemented into a mass like the bits of stick and sand with which the young cad-tis covers its nakedness. The notion, which Kant has done much to encourage, that psychical life begins with a confused manifold of sensations not only without logical but without psychological unity is one that becomes more inconceivable the more closely we consider it." Ward, "Psych." ("Theory of Presentations"), "Encyc. Brit."

³ Im Thurn, "Journ. Anthr. Inst.," May, 1882, p. 372. See also Romanes, "Mental Evolution in Man," pp. 398, 399; Lloyd-Morgan, "Animal Life,"

No wonder, if we could believe in such a "break" as this, that the most suicidal as well as grotesque and idiotic forms of cult should not merely have prevailed but have persisted, and not mainly or chiefly in theory, but in grim and savage practice. The marvel then becomes that out of such a seething mass of lunacy there should have emerged that very sobriety of exact thought which criticises it.¹ But if we cannot believe in any such "catastrophic" collapse in the face of the overwhelming evidence of continuity throughout the organic ascent, then the checking force would be tremendous, and the follies would be stamped out as fast as they arose.² How then did we go astray? Of course it is not suggested that crudeness or vagueness were unnatural in the young mind of the race. Immature thought must needs be both; for it certainly cannot be an elaborate reproduction of an exquisite complexity. But the point is that growing intelligence, instead of flying off the curves of reality at arbitrary tangents and becoming fixed therein, would, in the long run, be broadly true to nature.³ When we find a "vestigial"

&c., p. 419; Clark-Murray, "Handbook of Psych.," p. 30; Hughlings Jackson, "Croonian Lects.," 1884, pp. 25, 27, 29.

¹ In a true sense, however, "the psychologist who essays to treat mind evolutionally has to begin at the top of the chain and work downwards; he cannot, like the biologist, begin at the bottom and work upwards." Ward, "Psych. Princ.," "Mind," No. 45, p. 47. See also Spencer, "Princ. of Psych.," vol. i, p. 408.

² James, "Princ. of Psych.," vol. ii, p. 487.

³ "So a man, on a road once traversed inattentively before, takes a certain turn for no reason except that he feels as if he must be right. He is guided by a sum of impressions, not one of which is emphatic or distinguished from the rest, not one of which is essential, not one of which is conceived, but all of which together drive him to a conclusion to which nothing but that sum-total leads. Are not some of the wonderful discriminations of animals explicable in the same way?" James, "Princ. of Psych.," vol. ii, p. 351. "Framed as we are, we can have no *a priori* idea of a movement, no idea of a movement which we have not already performed. Before the idea can be generated, the movement must have occurred in a blind, unexpected way, and left its idea behind." *Ibid.*, p. 580. "Such instinctive analogies have, like other analogies, to be confirmed, refuted, or modified by further knowledge, *i.e.*, by the very insight into things which these analogies have themselves made possible. That in their first form they were mythical, and that they could never have been at all unless originated in this way, are considerations that make no difference to their validity, assuming, that is, that they admit, now or hereafter, of a logical transformation which renders them objectively valid." Ward, "Psych." ("Imagination or Ideation"), "Encyc. Brit." The following is surely an instance of the curious inconsistency of some of our interpretations: we suppose that to the primitive man the stars are at once spangles and heroes: "The principle underlying Sabaism is the belief that all the heavenly bodies are inhabited and taken possession of by spiritual beings, which have migrated thither and made them their habitations. Ignorant as they were of astronomical knowledge, they did not see any absurdity in animating a sun, moon, or star with a brilliant hero. In very truth, a primitive people consider the stars as little spangles stuck on the sky as ornaments, and the sky itself as no farther off than the mountain that skirts their horizon. The sun, above all other natural

organ carried on within us, like a gill-arch or a thumb-toe, we don't treat it as an analogue of the hunch-back and the squint.

Even if we could not find a surviving animal which was enjoying swimming or climbing privileges denied to us poor "humans" as we now are, we should still look for their fossil remains, and even for the water and the tree which fitted such organs.¹

Is not this, then, the gist of it all?

Either (1) we are to suppose an absolute break and reversal in the evolution of mind; a stage of gratuitous incoherence in which the developing imagination has let go all the organised reactive power which up to that stage had made its owner what he was, and proceeds to create a burlesque of the universe,—

Or (2) we have, if not to assume that there is, at least to ask whether there may be in primitive cosmology and natural history an underlying element of true "mental shadow" of outward fact; an unbroken continuity of response in consciousness answering to the unbroken series of structure, function, and organic reactions; a mine, as it were, of valid suggestion, carried on within us and prompting more and more definite expression.²

If we choose the former, if the imagination can thus wholly escape from the established grip of responsive control inherited from the first, then what inference are we to make? The beast

objects, has become a mythical being among the most uncultivated tribes. 'The original parent of the Comanches lives, they say, in the sun. The Chichimecs called the sun their father.' The name for the sun in the language of the Salive, one of the Orinoco tribes, is, 'the man of the earth above.' Dorman, "Origin," &c., p. 336.

¹ "This hypothesis of subconsciousness has been strangely misunderstood, and it would be hard to say at whose hands it has suffered most, those of its exponents or those of its opponents. . . . Half the difficulties in the way of its acceptance are due to the manifold ambiguities of the word consciousness. . . . There would be no point in saying a subject is not conscious of objects that are not presented at all; but to say that what is presented lacks the intensity requisite in the given distribution of attention to change that distribution appreciably is pertinent enough. Subconscious presentations may tell on conscious life—as sunshine or mist tells on a landscape or the underlying writing on a palimpsest—although lacking either the differences of intensity or the individual distinctness requisite to make them definite features." Ward, "Psych." ("Theory of Presentations"), "Encyc. Brit."

² "We as yet understand nothing of the way in which our conscious selves are related to the separate lives of the billions of cells of which the body of each of us is composed. We only know that the cells form a vast nation, some numbers of which are always dying and others growing to supply their places; and that the continual sequence of these multitudes of little lives has its outcome in the larger and conscious life of the man as a whole. Our part in the universe may possibly in some distant way be analogous to that of the cells in an organised body, and our personalities may be the transient but essential elements of an immortal and cosmic mind." Galton, "Human Faculty," p. 301. See also Reville, "Hibbert Lectures," 1884, pp. 231, 253, 254.

teaches us the lesson and law which ought, according to evolution, never to have been lost or violated. As it fears its physical, it obeys its intellectual superior, when by controlling, taming, and training it he has proved his supremacy. But primitive man simply dreads and assiduously endeavours to propitiate the very objects of which his organic inheritance ought to have taught him the unreality, ever suggesting the safety of neglecting the merely fanciful.¹ One can better understand the "civilised" mind doing things of this kind on a higher plane. That we should in some ways have less instinctive power now, after ages of artificial accretions to experience and the consequent weakening of our ties with outward nature; this seems an obvious probability. For instance, the predominance of mechanical inventive power might promote the carpenter or watchmaker idea of a Creator, and lead to His being called Artificer or Architect or Designer, &c. The life of a complex civilisation abounding in mechanical contrivances of all kinds, does tend to divorce us from simple community with nature. And yet we find that it is under these very conditions that we seem first to resume, in a critical or analytical form, the sober senses which had deserted us so cruelly in those early days just when their help was most needed. On the other hand, if we (provisionally) adopt the second alternative and proceed to test it by the materials now accumulating on all sides, we may find that some of the most grotesque parodies of nature, as well as some of the most repellent or ludicrous ceremonies and observances (religious or other) prevailing in early times, are largely failures of "translation"; failures to express worthily things which lie deep down in the centres of human experience, were true then and are true now, form part of natural order, and may soon for the first time be able to find scientific expression.² If so, what is first needed, here as elsewhere, is an accession of power rightly to interpret "myth, ritual, religion," and mysticism in general. And this, not according to any dogmatic ghost-theory, dream-theory, sun-myth-theory, or any other preconceived assumption, but on their own merits and in relation mainly—for this is what it is specially desired to urge

¹ "As pleasure and pain are only signs that certain of our tendencies are what is deepest in us; as they express the very depths of our personality, of our character; it follows that spontaneous attention has its roots in the very basis of our being. . . . It might be a subject of wonder that so evident and striking a truth . . . should not long ago have been recognised as a common acquisition of psychology, if indeed the majority of psychologists had not obstinately persevered in the exclusive study of the higher forms of attention, that is to say, in beginning at the end" Ribot, "Psych. of Attention," p. 13. Hall and Donaldson, "Motor Sensations," &c., "Mind," No. 40, p. 572.

² Burdon Sanderson's, "Address at Brit. Assoc.," Sept. 1889, "Nature," Sept. 26th, 1889.

—to the facts which the newer schools of psychology are collecting for us, and to recent developments of the study of language, its growth and development on the figurative and psychological side.¹

DISCUSSION.

MR. F. GALTON: Lady Welby has raised two interesting questions, the one psychological, and the other social, that do not seem to have been directly raised before, and which deserve full discussion. The first question is why barbarians, who may roughly be taken to represent men whose reasoning powers are less developed by evolution than those of the more highly civilised races, should be apparently so much more superstitious and unreasoning than mere brutes, whose order of intelligence is considerably inferior to theirs. Certainly the scientific spirit has been late in making its appearance in the human race. Lady Welby's argument is that brutes are not fanciful, but are practical, and that highly civilised men are much less fanciful than barbarians, and are much more practical; how is it, then, that barbarians are so exceedingly fanciful? Moreover, the fancies of all barbarian races seem to run along parallel lines. Totemism, animism, fetiches, are almost, if not quite, universal among them. This is a psychological question, well deserving careful discussion. Speaking with diffidence, it appeared to him that the power of reasoning at all implies a considerable evolution of the imaginative or representative power beyond the stage in which it is possessed by brutes, and further, that barbarians who possess that power and not much else, were as little competent as children are to distinguish with clearness between the subjective and the objective world. They are very apt to take fancy for fact. They look upon mental

¹ "As then we credit the original people with a stock of religious ideas, it follows that we may assume that certain rites and ceremonies of a religious kind were practised in the primeval period. I must, however, confess that I think their discovery is almost entirely reserved for the inquirers of the future." Schrader and Jevons, "Prehistoric Antiquities of Aryan Peoples," p. 420. Comp. pp. 244, 415. "The creative period of language, the epoch of 'roots' has never come to an end. The 'Origin of Language' is not to be sought merely in a far-off Indo-European antiquity, or in a still earlier pre-Aryan yore-time; it is still in perennial process around us." Dr. Murray, "New English Dictionary," Prefatory Note to Part III. "The investigator . . . learns from the course of growth in each current hypothesis to appreciate its *raison d'être* and full significance, and even finds that a return to older starting-points may enable him to find new paths, where the modern track seems stopped by impassable barriers. . . ." Tylor, "Primitive Culture," vol. ii, p. 422; comp. vol. i, p. 24, 25. "All these facts, taken together, form unquestionably the beginning of an inquiry which is destined to throw a new light into the very abysses of our nature." James, "Princ. of Psych.," vol. i, p. 211. See also Macdonald, "Journ. Anthr. Inst.," Nov., 1890, p. 119; Paul, "Princ. of Languages," pp. xli, xlii, xlv; Geiger, "Development of the Human Race," pp. 2-4; Lloyd-Morgan, "Animal Life," &c., pp. 374-6; Croom Robertson on "Munsterberg," "Mind," No. 60, p. 530; A. F. Shawd, "Mind," No. 59, pp. 361, 365, 371, 372; Ellis, "Tshi-speaking Peoples," pp. 185, 186.

association as equivalent to physical connection, and they base logically enough upon these erroneous grounds, a vast superstructure of superstition. If we recollect that the barbarian is certainly not more logical than ourselves, and that we are often very illogical, there appears no great cause of wonder at the enormous amount and variety of superstition to which he is subject, and of which the members of this Institute have very frequent opportunities of hearing described.

The second question raised by Lady Welby is why the superstitious races are not crushed out of existence by those who are less so; why it is that natural selection fails to establish non-superstitious varieties of barbarians in the place of superstitious ones?

This is a question that should be answered by means of an historical inquiry. Is it, or is it not a fact, that in conflicts between races, those who are the most superstitious are necessarily at a disadvantage? He was by no means sure on *a priori* grounds that such would be found to be the case. Superstition and illusion are great factors in national life. Among other things they feed fanaticism, of which we have had not a little recent experience among the Arabs in the Soudan. They encourage belief in supernatural aid and in immunity from the weapons of the enemy. A body of men simultaneously penetrated by such feelings as these are formidable foes. Much might be said concerning even the experience of very recent years, and of the present day, such as of occurrences among the Zulus and just now among the Red Indians of North America, who expect a Messiah and are avowedly most dangerous antagonists. A painfully interesting account of the effect of calm superstition will be found in Mr. Jephson's recent book on Emin Pasha, p. 217-250, where he describes the address made to the Pasha's men by the Dervish ambassadors, who were afterwards martyred by those men. There is scope for an enquiry of extreme historical interest into illusion as a factor of society and of government.

In conclusion, it seemed to him that the two questions he had mentioned, as being raised by Lady Welby's paper, the one psychological and the other social, were eminently deserving of discussion and suitable for it.

Sir F. POLLOCK was unable to agree with the general drift (so far as he was able to collect it) of Lady Welby's paper, or with the particular arguments, for the following reasons (now condensed and re-arranged):—

(1) The superstitions of archaic societies are not a reversal of the order of evolution. What we now call degradation may, under certain conditions, be as much in the order as anything else, and even, for the time being, the only alternative to extinction. It is so with some animals. Again, these (often elaborate) beliefs are not perverted imagination, but conclusions from false theories consciously held.

(2) The argument from "survival of the fittest" is not admissible except where we know that there is effective competition. Thus, any Greek State whose armies had not troubled themselves about omens, &c., might perhaps have had a sensible advantage in the Peloponnesian War. But, as they were all about equally superstitious in this kind, their superstitions may be taken to have done one side no more harm than the other; though the scruples of Nicias (deemed excessive even then) did, in some measure, contribute to the disaster of the Sicilian expedition. In modern times experience shows that the less superstitious people, so far as there is a field of effective competition, do prevail over the more superstitious. Man, like other species, can afford to make mistakes until the conditions are realised which cause the particular mistake to become fatal or dangerous.

(3) It may be a curious and important question why archaic men should have wanted to make a theory of the universe at all. But, since they did theorise, there is nothing to wonder at in their theories being wrong. It would be much more wonderful if they had not been wrong. Our superiority is chiefly in knowing (when we do know) how far we are from complete knowledge. The belief in ancestral ghosts, &c., was a quite plausible pseudo-scientific theory in its time. We can now make it look absurd; but this is equally true of all disapproved and discredited theories. Doubtless the generic resemblance of belief and custom among widely different races is curious and deserving of enquiry; but that is not the point proposed.

(4) A tendency to right reasoning on complex facts is quite different from a tendency to right (*i.e.*, life- or race-preserving) organic "response to stimulus," and ought not to be admitted or surmised without proof. I see no reason for assuming it.

On the whole, I fail to see that there is any paradox to be accounted for. I am likewise unable to understand the "second alternative" indicated at the end of the paper, or the sense in which the word "translation" is used.

Mr. LEWIS directed the attention of the meeting to the following papers, published in the *Journal of the Institute*, as showing the extreme vividness and reality which dreams possessed for savages:—

Rev. Canon Culloway "On Divination and Analogous Phenomena among the Natives of Natal." Vol. i, p. 163.

E. Im Thurn "On the Animism of the Indians of British Guiana." Vol. xi, p. 360.

A. W. Howitt "On some Australian Beliefs." Vol. xiii, p. 187.

He doubted whether they knew enough about the ideas of animals and of uncivilised men to say whether the "break" that Lady Welby spoke of really existed, but he thought that so far as they did know the facts they were very much what Lady Welby considered they should be.

Dr. WILBERFORCE SMITH admitted that in the absence of the

authoress, all criticism must be discounted. He would nevertheless question the soundness of a link in her chain of argument, viz., the theory that a primitive savage might regard the benefit derived from his food as being of a "ghostly" or spiritual nature. For if we might permit ourselves to guess at the experiences and mental operations of the savage, we could not doubt, for instance, that he must have experienced times of scarcity or famine which diminished alike his own supplies and those of the surrounding animals. He must have perceived that loss of food involved loss of flesh alike to man and brute, a tangible material result which would disfavour any "ghostly" theory of nutrition. He must have further noticed that in a slight underfed condition, he was, as a rule, no match for a bigger, better fed antagonist. He would thus require no acute observation or reasoning to become persuaded of the advantage of the material substance afforded by his food. Only by an excessive stretch of imagination, could we suppose him to have regarded the benefit derived from his food, as being "ghostly" or spiritual.

As to modern beliefs in the existence of a spiritual condition of being, the speaker was not sure if he correctly understood Lady Welby's paper to assume the absurdity of all kinds of belief in spirit or ghost (Greek "Pneuma," literally "breath" or "air").

Now the field of modern science, within which the authoress arrayed her arguments, included not a few labourers who had done logical scientific work of a high order, whilst their religious views involved in some form a belief in spirit, albeit such belief was not held as a matter resting on scientific demonstration. Considering the existence of such believers, and arguing within the field of modern science, the authoress could not with propriety assume, offhand, that such men's religious belief was absurd.

Mrs. STOKES said there were many interesting points raised in Lady Welby's paper that she would like to have discussed, but she must limit herself to one, that, though modified since she heard the paper at the British Association, evidently still remained the central idea, *i.e.*, the question "Is there a complete break in Mental Evolution?" Mrs. Stokes did not think there was. The conception of the idea of Evolution is that of a series of steps so gradual as to be scarcely recognised as steps, but as mere general progression. The evolution of a race much resembles that of an individual mind. That proceeds through perception and experience to the recognition of itself as a cause. But it soon finds that external to itself and often dominating itself, and other similar creatures, were other greater and more incomprehensible causes. Errors arise from the faulty naming of those causes, through the incomplete mental development that mis-translates signs. So with races at different stages. We, standing upon the experience of centuries of civilisation, translate from the secondary causes the forces of nature, and the truths of science, within which is our conception of the prime cause as Divinity, singular, spiritual,

everlasting; they, with more limited experience and less trained minds, found their external causes many, and rendered false meanings in various superstitions. They do not harmonise their thoughts, but there is the same search after translation. There is no break, but a natural development by longer or shorter paths, through a lower to a higher stage.

The Rev. EDMUND McCLURE also took part in the discussion.

Lady WELBY has made the following observations in reply to the discussion:—

I must begin by expressing my grateful sense of the indulgent attention with which the crude effort of an untrained outsider has been received, and especially of the kind words of the President of the Meeting. I am deeply sensible at once of the gravity and difficulty of the issues raised, of their wide ultimate applications, and of my own inability to do them anything like justice. I shall be more than satisfied if I have succeeded in calling the attention of some who are better fitted to deal with them, to questions which seem to me to lie further back than any ground yet taken on the question of psycho-genesis, with reference to the primitive man's ideas about himself and the world he lives on. For instance, if we accept the view that the first development of imaginative power so overcame the sense of the tangible that the early man's world became subjective, and he took fancy for fact; we are surely assuming a sudden paralysis of what, till then, had been one of the most irresistible of evolutionary factors—the inter-relation and combination of functions, incessantly modified and thus incessantly corrected by the "environment." When we think what a slave the average man is even now to any "habit" which has its roots in some physiological process, healthy or morbid, it seems inconceivable that in days when the abstracting power was still in its infancy, the imagination should have enjoyed a freedom so entirely unhampered by its recent emergence from more "automatic" conditions. Prof. Lombroso's recent plea for physiologically derived "misoneism"—the primitive repudiation of the strange or new—belongs to this ground. And as to the suggestion sometimes made that animals "see apparitions," all that seems to be established is their shrinking from and showing terror at whatever is conspicuously alien to their experience, and thus is to them contra-natural. And that instinctive protest answers to what we might expect to find as a primitive bar to the growth of gratuitous invention in a purely fanciful ghost-world. Sheer fright and literal aversion would tend to prevent the deliberate organisation of rite or elaboration of myth. Such superstition as there was would thus be mainly of a negative character; certain localities or practices would be avoided or ignored as recalling what was puzzling and thus alarming and repulsive. Again, if we admit that superstitions may have had a preservative and even an ennobling effect (as, *e.g.*, in the case quoted, of the Dervishes) are we not altering the value of the word and suggesting that such

"superstitions" were not always so ultimately baseless as they seemed, however mistaken, grotesque, or even monstrous their expression? And in the question of "illusion" which, as the President urges, calls for fresh and historical study and illustration, we must distinguish between a primary illusion—one lurking in the central processes of "mind," and modifying all its activities—and those secondary illusions which, depending on defective interpretation (leading to mistaken inference and consequent action), may nevertheless rest upon irrefragable fact. (This, however, brings us to the further questions: where does "illusion" proper, begin? and, what do we include under the term?)

My friend Sir F. Pollock lays down a series of definite propositions which are virtually able re-statements of the ordinary view. (1) He maintains that early superstitions do not reverse an upward or advancing tendency. But he does not touch the question of a "cult of the dead" which I have ventured to raise as itself the expression of a paradox, and which cannot be denied, and is necessarily a reversal; unless, indeed, he means that there is no question of the "dead" in any such cult, but that the use of the word was then, as it is now, an implicit contradiction (*e.g.*, as in the title of a recent book, "Our dead: where are they?" Answer—If dead, how "ours" and why ask?) (2) Here there is, as yet, a lack of enquiry on the basis suggested, so that we must wait for an answer. (3) Here we come to a question which I venture to think worth more than mere statement. Primitive men, we may surely suspect, did not theorise at all in the modern sense, but strove hard for very good reasons (*i.e.*, the relief of natural craving) to use their budding function of "expression"—in whatever form—in conveying to each other certain primordial impulses running within them as strongly as the nerve or blood-currents, and as insistent in demanding outlet or prompting "explosion" as the most fundamental of organic energies. Thus the "generic resemblance of belief" becomes an important part of the point proposed; that would be the result of its actually generic character or origin, and its intimate links with the very starting points of life. (4) Of course a tendency to right reasoning (in the philosophical or scientific sense) is quite different from a tendency to right organic response to stimulus. But I did not intend to relate the two; what I supposed to be linked in an unbroken continuity was organic, rising to conscious and mental "response to stimulus." The real question seems to me here to be, where does the literal use of the phrase end, and the metaphorical begin? As to "breath" taken to represent and express the "dead" or the "double" it seems, on the usual assumptions, absurd. But question these, and, of course, there may be good reasons for its symbolic selection, as there may be important realities which it symbolises better than anything else within reach could do. Everywhere the question recurs: Are we quite sure that our tacit assumptions are invulnerable? Have we begun far enough up in the stream of "experience," or penetrated

far enough into the secret springs of "mind" to justify them? This remains to be seen. But apart from disabilities, which no one can feel more strongly than myself, it is obvious that within the limits of a single paper, only the barest indication can be given of the line of thought suggested, and but few out of many points even touched upon.

Mr. FRANCIS GALTON exhibited some Patterns of Finger Marks. (See page 360.)

JANUARY 13TH, 1891.

E. W. BRABROOK, Esq., F.S.A., *Vice-President, in the Chair.*

The Minutes of the last meeting were read and signed.

The following elections were announced:—

FRANK PEARCE, Esq., of Lake Road, Landport, Portsmouth.

L. A. WADDELL, Esq., M.B., of Darjiling, India.

The following presents were announced, and thanks voted to the respective donors:—

FOR THE LIBRARY.

From Dr. BEDDOE.—*Ethnographie de la France.* By Alph. Castaing.

From the AUTHOR.—*The Convolutions of the Brain.* By Sir William Turner, Knt.

— *L'Atlantide.* By Ferdinando Borsari.

— *Censo General de la Ciudad de Buenos Aires, 1887.* 2 vols.

From the PUBLISHER.—*Folk-Lore.* Vol. i. No. 4.

— *Der Hohencultus Asiatischer und Europaischer Volker.* By Ferd. Freih. v. Adrian.

From the STATE BOARD OF HEALTH, MASSACHUSETTS.—*Forty-eighth Report to the Legislature of Massachusetts, for 1889.*

— *Twenty-first Annual Report.*

From the GOVERNMENT OF PERAK.—*The Perak Government Gazette.* Nos. 28, 31, 32, 34.

From Professor AGASSIZ.—*Annual Report of the Curator of the Museum of Comparative Zoology at Harvard College for 1889-90.*

From the BERLIN GESELLSCHAFT FÜR ANTHROPOLOGIE, ETHNOLOGIE UND URGESCHICHTE.—*Zeitschrift für Ethnologie.* 1890. Heft 5.

330 A. L. LEWIS.—*Exhibition of a Specimen of a Stone, &c*

- From the ROYAL SCOTTISH GEOGRAPHICAL SOCIETY.—The Scottish Geographical Magazine. Vol. vii. No. 1.
From the ESSEX FIELD CLUB.—The Essex Naturalist. Vol. iv Nos. 7-9.
From the ACADEMY.—Bulletin International de l'Académie des Sciences de Cracovie. 1890. October, November.
From the INSTITUTION.—Journal of the Royal United Service Institution. No. 155.
From the SOCIETY.—Proceedings of the Society of Biblical Archaeology. Vol. xiii. Part 2.
— Proceedings of the Royal Geographical Society. Vol. xiii. No. 1.
— Journal of the China Branch of the Royal Asiatic Society. Vol. xxv.
— Journal of the Society of Arts. Nos. 1986-90.
— Bulletins de la Société d'Anthropologie de Paris. Tome xii. 1889. Fas. 4. Tome i. 1890. Fas. 1.
— Bulletins de la Société d'Anthropologie de Bruxelles. Tome viii.
— Bulletins de la Société Impériale des Naturalistes de Moscou. 1890. No. 2.
From the EDITOR.—Nature. Nos. 1102-1106.
— Science. Nos. 407-412.
— L'Anthropologie. Tome i. No. 6.
— Revue Scientifique. Tome xlvii. Nos. 25, 26; Tome xlvii. Nos. 1, 2.
— Bullettino di Paletnologia Italiana. Tomo vi. Nos. 7-10.

EXHIBITION of a SPECIMEN of the STONE used by ADMIRAL TREMLETT to cut marks on the GRANITE of which the BRETON DOLMENS are formed.

By A. L. LEWIS, Esq., *Treasurer.*

MR. LEWIS said: I exhibit to-night, as having some affinity with the subject of Mr. Rudler's paper, a stone sent to me for inspection by Admiral Tremlett, who says he believes it is the kind of stone with which the dolmens at Carnac and Locmariaquer (Brittany) were sculptured. It is pronounced by the Geological Museum authorities to be jasper, and there are three varieties of it round about Carnac, red, yellow, and grey. The yellow is compact and by far the hardest, and with it Admiral Tremlett easily cut the coarse granite of which the dolmens are constructed; the red is also good, but it is more brittle. There is a vein of stone resembling that exhibited running across a

granite rock near Carnac, but its colour is that of steel or iron. Admiral Tremlett has found the red and yellow varieties loose after rains and near to the surface; but in the pits where they dig out clay there are quantities of it, mostly in blocks, but not of a large size, and frequently found with pointed ends convenient to work with.

The peculiar markings which are found on some of the dolmens of Brittany have often been brought before our notice, especially by Admiral Tremlett, and the question has often arisen whether stone tools were hard enough to have made them, or whether they must of necessity be referred to a metal-using people. Admiral Tremlett's experiment appears to show that they could have been made with stone tools.

EXHIBITION of a FIRE SYRINGE from BORNEO.

By R. BIDDULPH MARTIN, Esq., M.A.

MR. MARTIN said: The fire syringe which I have the honour of exhibiting comes from British North Borneo. It is not a good specimen of this interesting domestic appliance, but curious because these syringes are rapidly disappearing and are difficult to obtain. Mr. Beaufort, who sends it to me, tells me that he sends this in place of a better one that he hopes some day to be able to procure. They are, I believe, confined to the West Coast. The better ones are made of wood: this appears to be of lead, or lead and antimony; at the end is a notch apparently to rest on a stick held in the hand, wherewith better to sustain the stroke by which fire is produced. This action of producing fire is by no means easy, and I understand that Europeans who have lived many years in the country find it difficult to get the knack of obtaining fire, which a native will produce in a few minutes. A good specimen of the fire syringe was exhibited in the Colonial Exhibition, and I believe is now in the possession of Sir Alfred Dent.

MR. C. H. READ, F.S.A., made some remarks on the above.

MR. READ exhibited some specimens of worked Jade from British Columbia, and a bored stone from San Juan Teotihuacan.

MR. J. EDGE-PARTINGTON and MR. C. HEAPE exhibited an Ethnographical Album of the Pacific Islands.

The following Taper was read by the Author:—

*On the SOURCE of the JADE used for ANCIENT IMPLEMENTS in
EUROPE and AMERICA.*

By F. W. RUDLER, F.G.S., *Hon. Sec.*, Anthr. Inst.

It is not a little remarkable that the interesting controversy respecting the source of the Jade used in prehistoric times, although freely discussed on the Continent and in America, has never, I believe, been formally submitted to the Anthropological Institute.¹ As certain mineralogical discoveries within the last few years have tended to modify considerably the character of the controversy, it has occurred to me that it might be interesting to bring the subject before our members, especially as discoveries in mineralogy are apt to escape the notice of Anthropologists.

It may be well at the outset to explain briefly the nature of the problem and its difficulties. A certain mineral called *jade*, or a small group of minerals known popularly under this generic name, has, or until lately was supposed to have, a very limited geographical distribution. Its occurrence, at least in quantity, was believed to be limited to Turkestan, Burma, China, and Siberia; and to New Zealand, New Caledonia, and some other islands in the Pacific. It has been held, until quite recently, that jade is not found as a native mineral in either Europe or America.

Yet, as everyone knows, implements wrought in this material are found widely distributed in prehistoric sites in Western Europe, and in North, Central, and South America.

Whence then was the material derived?

Some anthropologists have been bold enough to turn their eyes towards New Zealand and the Pacific, while others with less temerity were content to look to Central Asia. The question of the source of the jade thus became an anthropological question of extreme interest. It was generally assumed that the jade found in the ancient sepulchres of France and Germany, and in the lake dwellings of Switzerland and other European localities must have been brought from somewhere in the East, either in a raw state—for chips and sawn fragments have been found in some of the Swiss stations—or more usually in the form of worked implements. It has been held that the

¹ The late Mr. H. M. Westropp contributed a note on this subject, published in the "Anthropological Miscellanea," "Journ. Anthropol. Inst.," vol. x, 1881, p. 359. See also Mr. James Hilton's "Remarks on Jade" in the "Archæological Journal," vol. xlv, 1888, p. 187.

early races of Europe may have brought their much-prized implements of jade from an Asiatic home, and handed them down from generation to generation; or that such implements may have passed from tribe to tribe by way of barter, thus suggesting a very early trade-route with the Orient. In either case the implements were invested with peculiar interest.

The interest was perhaps increased when, turning from Europe to the New World, it was found that objects wrought in jade were widely distributed among the ancient monuments of America. From Alaska in the North, all down the Western sea-board of the Continent as far South as Peru, jade objects were found in greater or less abundance; and as jade had not until lately been recognised in the American Continent, it was assumed with great show of reason that the implements, or, if not the implements, at least the material of which they were worked, must have come either from New Zealand by way of the islands of the Pacific, or more probably from Central Asia or Siberia by way of Behring Strait, thus indicating early intercourse, certainly Pre-Columbian, between the Old World and the New.

Among those who entered into the controversy with special ardour, the first place must be assigned to the late Professor Heinrich Fischer, of Freiburg-in-Baden. Advocating the exotic origin of all European jades, he worked out his subject in its most minute ramifications with a perseverance characteristically Teutonic, and embodied his results in a well-known work which forms a complete repertory of references.¹ Many years ago, when the question was being warmly discussed, I had the opportunity of examining the professor's collection of jade in the Museum of the University of Freiburg. It was Fischer perhaps more than anyone else, who, by his voluminous writings gained wide credence for a theory which I believe is now destined to be overthrown, although at one time it seemed to me the only feasible explanation of the facts.²

It is clear that the theory of early intercourse with the East is open to two sources of fallacy. In the first place the implements on which the discussion is based, may not, after all, be of genuine jade. Jade is a fine-grained mineral-substance, not always easy to identify. Its physical characters are not sufficiently definite to enable the mineralogist in many cases to

¹ "Nephrit und Jadeit, nach ihren mineralogischen Eigenschaften sowie nach ihrer urgeschichtlichen und ethnographischen Bedeutung." Von Heinrich Fischer. Zweite Ausgabe, Stuttgart. 1880. 414 pp. The first edition appeared in 1875.

² In an article "On Jade and kindred stones" in the "Popular Science Review" for 1879, p. 337, I gave, at the editor's request, a sketch of the state of opinion at that time.

determine by mere ocular inspection whether a given material is true jade or not, especially if the material is worked into an implement with a polished homogeneous surface. There is no doubt that implements have often been set down as jade on insufficient evidence; any dark fine-grained greenish stone being at once regarded as jade, without chemical or microscopical examination; in fact, the destructive nature of such an investigation usually precludes its application to objects of value.

But even assuming that a given implement from a particular locality is really jade, can we be sure that the material is not indigenous to the country in which it was found? Here is the second chance of error. It is true that the jade is not by any means a common substance; but it is likely that, being in its rough state unattractive to the eye, always without crystalline form and usually of sombre colour, it may have escaped observation. Early man, whose eyes were specially trained in searching for stone suitable for weapons and implements, may have found it where the man of the present day would overlook it. It is a substance which needs to be specially sought for, and who can say that the mountains of Southern Europe will not, after all, yield it to the diligent seeker? If the mineral can be found in Europe and in America, the jade question at once loses its anthropological importance. It is my desire to call the attention of the Institute to the recent discovery of unworked jade *in situ* both in Europe and in North America, and to show how these discoveries tend to overturn Fischer's hypothesis.

As the mineralogical characters of jade are often extremely obscure, few mineralogists will now pronounce on the character of a given implement with a polished surface, unless he be permitted to partially destroy it. In the year 1863 M. Damour presented to the French Academy of Sciences a valuable memoir, in which he showed that under the common name of jade at least two distinct minerals had been previously confounded.¹ He therefore proposed to establish a new species under the name of *jadeite*, retaining the old mineralogical term *nephrite* for the typically oriental *jade*. The chief physical distinction was found in density, that of jadeite being above 3, and rising in some cases to 3.34, while the specific gravity of nephrite was rarely above 3, and generally not more than 2.9. This is the easiest means of distinguishing between the two stones, and is usually, though not perhaps always, decisive.

¹ "Notice et analyse sur le Jade vert: Réunion de cette matière minérale à la famille des Wéserites." Par M. A. Damour. "Comptes Rendus," t. lvi, 1863, p. 561.

Again, the hardness of jadeite is rather greater than that of nephrite, so that it will scratch the latter; but neither of the minerals is quite so hard as quartz. It is a popular error to suppose that jade is a very hard stone; its prominent characteristic, which confers such value upon it as an implement-yielding material, is not so much its hardness as its toughness—a property due to the closely-felted arrangement of the fine fibres and scales of which it is generally composed. Microscopic characters are not always sufficient to separate the two kinds of jade. Mr. Merrill has usefully pointed out¹ that the jadeites are generally more granular or scaly-fibrous in texture, while the nephrites are uniformly fibrous and compact, a distinction sometimes detected by a hand-lens or even by the unaided eye. No safe distinction can be based on colour, though it may perhaps be said that jadeite is generally of a more decided green than nephrite. The only absolutely certain means of distinction is found in chemical analysis. The nephrite is a calcium and magnesium silicate, and is now universally regarded as a member of the hornblende group, the white nephrites being varieties of *grammatite* or *tremolite*, while the green are varieties of *actinolite*. The jadeite is found on analysis to be essentially an aluminium and sodium silicate, perhaps allied to *spodumene*.² Another mineral of dark colour and fine grained texture, often regarded as jade, was separated by Damour as a "new species" under the name of *chloromelanite*.³ It is distinguished by its density ranging as high as 3.4 to 3.6.

Damour, who was the first to call attention to the distinction between nephrite and jadeite, had his attention drawn to the subject by the magnificent specimens of worked jade which found their way to Paris after the sacking of the Emperor of China's summer palace, Yuen-min-Yuen, at Peking. The Chinese, who have always been skilful workers in jade, and great admirers of the material, have probably obtained their supplies at different times from different sources. Mr. Raphael Pumpelly in his "Geological Researches in China, Mongolia, and Japan," a work giving the results of explorations between the years 1862 and 1865, refers to the occurrence of jadeite in the

On *white* jade, see his paper: "Analyse du Jade Oriental: Réunion de cette substance à la Trémolite." *Annales de Chimie et Physique*, sér. iii, t. xvi, 1846, p. 469. Attention may also be directed to his paper: "Sur la composition des Haches en pierre trouvées dans les Monuments celtiques et chez les tribus sauvages." Par M. A. Damour. *Comptes Rendus*, lxi, 1865, pp. 313, 357.

¹ "On Nephrite and Jadeite." By F. W. Clarke and G. P. Merrill. "Proc. U. S. Nat. Museum," vol. xi, 1888, p. 128.

² See Dr. Krenner, "Neues Jahrbuch f. Mineralogie." 1883, ii, Heft i, p. 173.

³ *Comptes Rendus*, t. lxi, 1865, p. 364.

mountains of Southern Yunan, where it is known as *fei-tsu*.¹ A great deal of the Chinese jade appears to have been derived from the Kuen-lun Mountains, where it is said the Chinese have been familiar with its occurrence for some 2,000 years. The brothers v. Schlagentweit visited the district, and in 1873 Hermann contributed a valuable paper on the subject to the Bavarian Academy of Sciences in Munich.² About a year afterwards, the late Dr. Ferdinand Stoliczka, of the Geological Survey of India, who was attached as naturalist to the second Yarkand Expedition, described to the Geological Society of London his visit to the extensive jade quarries in the Karakash Valley, on the southern borders of Turkestan.³ The jade is described as being milky white, pale green, or dark green in colour; slightly softer than quartz, easily worked when fresh, but acquiring hardness on exposure, as is the case with so many other stones. The jade appears to occur in veins in metamorphic rocks consisting of hornblende gneiss, hornblende schist, and mica schist. Dr. Cayley also visited the quarries, and described them in "Macmillan's Magazine." Specimens brought home by him are in the Museum of Practical Geology. It should be added that the jade of the Kuen-lun Mountains is nephrite.

After the Chinese were expelled from Yarkand in 1869, these jade quarries were deserted. A source of jade of which the Chinese were not slow to avail themselves exists in Northern Burma. Of its mode of occurrence here we knew but little until after our annexation of Upper Burma. In 1888 a blue-book, issued at Rangoon, gave a report on these jade quarries.⁵ It is said that the discovery of green jade in Burma was accidentally made by a Yunnanese trader in the 13th century. In 1784 a long-continued struggle between Burma and China was brought to an end, and from that date a regular trade has been carried on by the Chinese traders, who have often lost their lives by malaria in their journey to the jade country. The jade mining country is a large tract, chiefly on the west bank of the Uyu River, the town of Mogaung being the headquarters of the trade. The quarries are worked by Kachins, Shans, and Burmese, but the Kachins regard themselves as the rightful

¹ "Smithsonian Contributions to Knowledge," vol. xv, 1866, p. 118.

² "Ueber Nephrit nebst Jadeit und Saussurit im Künlün-Gebirge." "Sitzungsber. d. math.-phys. Classe d. k. b. Akad. d. Wiss. z. München." Bd. ii, 1873, p. 227.

³ "Quart. Journ. Geol. Soc.," vol. xxx, 1874, p. 568. See also, "Records of the Geol. Surv., India," vol. vii, p. 51; and "Scientific Results of the Second Yarkand Mission," 1878, p. 18.

⁴ Vol. xxiv, 1871, p. 452.

⁵ "Proc. of the Chief Commissioner, Burma, for the month of August, 1888" (Rangoon.)

owners of the quarries. The Burmese jade is jadeite, sometimes green, and sometimes brownish and greyish. It is thus seen that jade is found in China, Turkestan, and Burma, but it is believed that Burma alone is now practically the sole source of Chinese jade.

It is difficult to understand how jade from any of these sources found its way to Europe, but probably advocates of the early trade-theory would prefer the Turkestan locality. Another source of Asiatic jade is in Siberia, but though possibly this might yield materials for transmission to Behring Strait, it is hardly likely that so remote a source could be utilised for the ancient European implements. M. Alibert, whose workings for graphite near Irkutsk have been successfully carried on for many years, has brought over from time to time some very fine blocks of a beautiful dark green nephrite obtained as boulders in the valleys of the Batougol Mountains, west of Irkutsk. Examples are familiar through M. Alibert's liberality, in most of the large museums in this country and on the continent.

To whichever of these Asiatic localities we turn, we are met by grave difficulties in supposing that they yielded the jade of our European implements. Some of the Swiss implements are wrought in nephrite and some in jadeite. It has been pointed out with reference to the pile dwellings that nephrite implements are rather characteristic of stations on the eastern lakes (*e.g.*, Lake Constance), and jadeite of those on the western lakes (*e.g.*, Lake Neuchatel). In France, jadeite predominates.

Dr. Munroe, in his admirable work on the "Lake Dwellings of Europe,"—a work which was not published when I first drafted this paper—estimates that in all Europe we have found about 500 or 600 worked objects in nephrite, 300 or 400 in jadeite, and about 200 in chloromelanite. From Lake Constance alone he records considerably more than 1,000 jade implements, one station on this lake—the station of Murach—having supplied nearly 500 implements, with 154 chips and sawn fragments, ranging in size from that of a finger nail to a few inches.¹

Professor Von Fellenberg, of Berne, to whom we are indebted for many analyses of Swiss jade implements, referring to the subject in 1869, said with perfect fairness that he should hold all of them as having been derived from the East until mineralogists should show him the mineral in the mountains of Switzerland, or as pebbles in the drift gravels, or in the

¹ See also Dr. Lee's translation of Keller's "Lake Dwellings" (2nd edition, 1878), containing "Notes on Jadeite and Jade," by Thomas Davies, F.G.S., vol. i, p. 683.

Nagelflue.¹ It should be pointed out that Dr. Arzuni, of Berlin, has since detected differences in the microscopic structure of the nephrite of the Swiss implements, and that of Turkestan and Siberia, which are regarded as sufficiently distinctive to disprove an Asiatic origin for these objects in Switzerland.² Professor Damour has found a pebble or boulder apparently of jadeite, at Ouchy on the Lake of Geneva;³ and a piece of crude jadeite, described as "green jasper," has been recorded from Monte Viso in Piedmont (*Ibid*, 1316); but such pieces would be regarded by Fischer and his followers as accidental fragments. Yet it is difficult to believe that whenever a piece of jade is found in Europe, it should have been transferred thither by human agency.

Many years ago an angular, smooth-faced block of a dull-green mineral, as large as a man's hand, was found at a depth of several feet in sand at the alum works at Schwemsal, near Leipzig. At first it was regarded as a mass of prase or greenish quartz, but its extreme toughness raised a doubt, and on chemical examination it was found to be nephrite. This occurrence was recorded by Breithaupt, but Fischer insisted that it must be a block of Asiatic jade accidentally dropped. It seems however, more likely that, as it occurred in the drift of the North German plain, it may have been transferred, perhaps ice-borne, from Scandinavia. It is true no jade has yet been recorded from Scandinavia, but it is by no means unlikely to occur among the hornblende rocks of the remote parts, still unexplored geologically.

Although no solid arguments could well be founded on isolated occurrences, yet the evidence becomes cumulative when several such finds are recorded. Thus it was reported towards the end of the last century that jade pebbles had been found in the drift of Potsdam, near Berlin, and specimens believed to be from this locality are preserved in the museum at Berlin. But we will not insist on the authenticity of these old discoveries. Quite recently, however, three rolled pieces of nephrite have been found, on separate occasions, in Styria. Two of these are in the Joanneum at Gratz, and the third in the little museum at Leibnitz. It is believed that two of them were obtained from the bed of the River Mur—the river on which Gratz is seated—and the third from that of the River Sann. The occurrence of the Sann nephrite has been critically examined by Dr. A. B. Meyer, of the Dresden Museum,⁴ who for many years has been

¹ "Verhandl. d. schweiz. Gesellschaft in Solothurn," 1869.

² "Zeitschrift für Ethnologie," 1883.

³ "Comptes Rendus," t. xlii, 1881, p. 1316.

⁴ "Der Sannthaler Rohnephritfund." Von A. B. Meyer, "Abhandl. d. Isis in Dresden," 1883, p. 77.

a very strong opponent of the exotic origin of European jades, and has written voluminously in reply to Professor Fischer.¹ It appears that an itinerant dealer in antiquities, who travels about the country collecting from the peasants, called at the Joanneum, and sold the jade for 20 kreuzers. It is a flat, polished pebble of triangular shape, first mistaken for a partially-worked celt. The dealer, Warthol, stated that he bought it of a peasant who found it near St. Peter, about six miles north of Cilli, in the valley of the Sann, and Dr. Meyer on visiting the locality believes that the statement is correct, though he could find no other jade pebbles in the stream.

Within the last few years nephrite has also been found under circumstances of interest at two localities in Silesia. Herr Traube, of Breslau, obtained from near Jordansmühl, in Silesia, a mineral which he at first took for a hard serpentine, but which turned out on chemical examination to be true nephrite. It occurs in serpentine associated with granulite, and might be readily overlooked by even a careful observer.² Having had his attention thus called to the subject, Traube in 1886 found another occurrence of nephrite in Silesia, this time in the serpentine at the well-known arsenical pyrites mines near Reichenstein.³ It is true that objects of worked jade have not been recorded from Silesia, but the discovery of the mineral *in situ* at two localities in this country, where its existence was previously unsuspected, shows that its distribution is wider than is generally supposed.

Jade implements have an extensive distribution along the North-Western coast of America, stretching through British Columbia and Alaska, and extending here and there some distance inland. Axes, adzes, drills, and other objects of jade are found in Indian graves, in old shell-heaps, and on deserted village sites. Dr. G. M. Dawson, assistant director of the Geological Survey of Canada, who has taken great interest in the subject, has recorded the discovery of two small boulders of jade, partly worked, in the lower part of the Frazer River valley, one at Lytton and the other at Yale.⁴ The specimens

¹ "Die Nephritfrage kein ethnologisches Problem: Vortrag gehalten zu Dresden im März, 1883, von A. B. Meyer." (Berlin, 1883.) An English abstract appeared in "The American Anthropologist," July, 1883, p. 231. See also his fine work; "Jadeit-und Nephrit-Objecte: König. Ethnographisches Museum zu Dresden." Leipzig, 1882.

² "Neues Jahrbuch für Mineralogie." III Beilage-Band, 1885, p. 412.

³ "Ueber einen neuen Fund von anstehendem Nephrit bei Reichenstein in Schlesien." N. Jahrb. f. Min., Bd. ii, 1887, p. 275.

⁴ "Note on the occurrence of Jade in British Columbia, and its employment by the natives." By George M. Dawson, D.Sc., F.G.S., &c. "Canadian Record of Science," vol. ii, No. 6, April, 1887.

illustrate the method by which the stone was worked. One boulder has been laboriously sawn into rough shape, probably by friction of a thong or piece of wood worked with sharp sand. The stone was cut from opposite sides, and when the cuts were sufficiently deep the medium ridge was broken, and the block thus separated into two pieces. The roughly-shaped tool thus sawn out was afterwards ground and polished.

Dr. Dawson, from his minute acquaintance with the characters of the pebbles in the rough beaches along the more rapid parts of the Frazer River, and especially from a peculiarity of polish due to the action of wind-drifted sand at low water, believes that these jade boulders are of indigenous origin. He inclines to the view that the British Columbia jade, so far from having been obtained from Siberia, is an autochthonous mineral produced by the alteration of volcanic material, and believes that, although not yet found *in situ*, it will be discovered among the highly altered volcanic series of the carboniferous and triassic strata.

After the acquisition of Alaska by the United States, a large collection of jade implements from this territory was deposited in the United States National Museum in New York. They consist chiefly of adzes, drills, and knife sharpeners, and the collection has been critically studied by Professor F. W. Clarke and Mr. G. P. Merrill.¹ From Professor Clarke's analyses it appears that the Alaska jade is true nephrite, whilst Mr. Merrill's microscopic investigations show that it is not to be distinguished structurally and optically from the nephrite of Siberia or New Zealand. It appears, however, to be of native origin. The natives of the coast indicated that the material was found in certain mountains inland, and after some futile attempts the locality was at last visited by Lieutenant G. M. Stoney, who actually found the jade *in situ*. The locality, known as the Jade Mountains, is situated north of Kowak River, about 150 miles above its mouth. Specimens brought to New York were found on examination to be chemically and microscopically identical with the material of the Alaskan nephrite, thus utterly displacing the old Siberian barter-hypothesis.

It may be mentioned that Professor Nordenskjöld, in his voyage of the "Vega," mentions the occurrence of a jade implement at Port Clarence, a point as far north as 65° latitude.

At the same time, some so-called jade implements from Point Barrow are found to be formed of a peculiar variety of pectolite.

We are also indebted to Professor F. W. Clarke and Mr. G. P.

¹ "Proceedings of the United States National Museum," vol. xi, 1888, pp. 115-130; with plate showing microstructure.

Merrill for a careful study of a series of Central American jade implements, principally from Costa Rica.¹ Among these were several of jadeite, associated however with others of quartz and certain ill-defined substances somewhat like jade externally. In like manner the Mexican jades examined by those authorities were found, as might be expected, to be jadeites. M. Boban, the well-known dealer in Paris, brought from Mexico a large collection of hatchets, amulets, idols, &c., which were found by Damour to be jadeite. Mr. G. F. Kunz, of New York, possesses probably the largest known axe of jadeite, said to have been found in the province of Oaxaca, in Mexico, and remarkable for having a human form sculptured upon it.²

Although jadeite objects are not uncommon in collections of Mexican antiquities, and the material probably formed one of the most important of the valued greenstones known to the Aztecs as *Chalchihuitls*, yet it is to be noted that no jade has yet been found in Mexico. At the same time some eminent geological authorities have expressed their opinion that it probably exists in the Valalta in Oaxaca. It was perhaps found by the ancient workers in the form of pebbles or boulders, as is so often the case with jade elsewhere, and not *in situ* in the rocks.

The well-known occurrences of jade in Oceania need not detain us, because I can hardly think that it has much serious bearing upon the question at issue. The extensive use of nephrite, or punamu, by the Maories, is well known to every one by the beautiful examples of meres, tikis, adze-heads, and other objects which grace every ethnographical cabinet. Incidentally I may remark that I have occasionally examined specimens of so-called New Zealand jade, which turned out to be merely green serpentine. Although true nephrite occurs in considerable quantity among the metamorphic rocks of the west coast of the South Island, yet the ancient Maoris evidently made much use of boulders, as some of their objects testify. In New Caledonia nephrite also occurs, and has been extensively used by the natives; whilst jadeite is reported to be found in New Guinea. The Oceanic jades, however, can hardly have found their way to Europe in prehistoric times, although Professor Fischer went so far as to argue in favour of such a view.

Reviewing the jade question in a general way it must be admitted that the known occurrences of nephrite and jadeite are as yet very limited. But within the last few years discoveries of the minerals have been occasionally made in Europe

¹ "Proc. U. S. Nat. Mus.," vol. xi, 1888, p. 124.

² "Gems and Precious Stones of North America." By George Frederick Kunz, New York, 1890, p. 278.

and in America, thus proving that the substances are not so limited geographically as formerly supposed. Moreover, our more intimate knowledge of the characters of the minerals shows that they are not of so exceptional a nature as the earlier authorities supposed, and geologists are entitled to predict the probability of their discovery, if searched for, among the metamorphic rocks of Europe.

On the whole, it may be said that although the last word has undoubtedly not yet been uttered on the jade question, the balance of evidence at present tends in my opinion towards the view that the jade is for the most part indigenous to the countries in which the implements occur, and that the controversy will therefore sooner or later be lifted entirely out of the domain of anthropology.

DISCUSSION.

Mr. WALHOUSE said that some years ago he noticed a letter in the "Times" in which the writer stated that, when visiting Iona, he bought some pretty green pebbles from children who were offering them for sale on the beach, and some time after he happened to show them to a learned Chinese gentleman, who pronounced them to be real jade. Mr. Walhouse went on to say that he, too, had visited Iona a year or two before the "Times" correspondent¹ and had also bought some of the green pebbles, two of which he produced. Mr. Rudler, however, pronounced them to be only serpentinous marble, or opicalcite, a mixture of serpentine and limestone.

Mr. MARTIN asked if jade was found in Burma or Afghanistan in quarries or in isolated blocks scattered through other kinds of rock.

The CHAIRMAN remarked that the facts stated by Mr. Rudler appeared to have cleared up what seemed the insoluble anthropological problem of some years ago, how a mineral only known to exist in the far East could have been transported in large quantities to the lakes of Switzerland; and showed that, as in many anthropological problems, the missing factor is our ignorance. There still remained, however, in connection with the subject, questions requiring investigation. Although jade quarries had been found in Europe and America, their connection with the localities in which jade implements have been discovered had yet to be demonstrated. The singular fact that nephrite implements alone occurred in one group of lake dwellings and jadeite implements alone in another also had to be explained. As Mr. Rudler had truly stated "the last word has not been said on this matter."

Mr. READ also took part in the discussion.

¹ The *Times* correspondent was Charles G. Leland, of "Gypsy Lore" celebrity. In his recently published volume on *Gypsy Sorcery* he repeats the Iona story, and again asserts the pebbles to be jade.—M.J.W.

ANNUAL GENERAL MEETING.

JANUARY 27TH, 1891.

JOHN BEDDOE, Esq., M.D., F.R.S., *President, in the Chair.*

The Minutes of the last Meeting were read and signed.

The CHAIRMAN declared the ballot open, and appointed Mr. BOUVERIE PUSEY and Mr. MAURICE BEAUFORT scrutineers.

The Treasurer, Mr. A. L. LEWIS, read his report for the year 1890, as follows:—

TREASURER'S REPORT FOR 1890.

The total receipts from revenue as distinguished from investments during the year 1890 have been £562 7s. 6d., being £23 4s. 4d. less than in 1889; in 1889, however, three life compositions of £21 each were received, whereas this year only two have been received, and this practically accounts for the difference; there has indeed also been a falling off of £9 9s. in the yearly subscriptions, but it is very gratifying to find this all but balanced by an increase in the sale of publications.

In pursuance of the recommendation contained in the Report of the Council for 1889, and approved by the last Annual General Meeting, a number of books and periodicals which were found to be of no practical value in our library have been sold out of it, and have produced £65; and £100 of the £900 3½ per cent. Metropolitan Board of Works Stock held by the Institute have been sold and produced £111 4s. 6d.

The ordinary expenditure for the year has been £656 17s. 4d., being £94 9s. 10d. more than the receipts from revenue, but £21 15s. 9d. less than the corresponding expenditure for 1889; this reduction is mainly in printing and stationery, which, for reasons explained last year, cost more in 1889 than usual, but I regret to find that £9 less have been spent on the *Journal* in 1890 than in 1889; this, however, is in consequence of the quantity and nature of the matter required to be printed, and not of any shortsighted attempt to save money by starving the *Journal*.

In addition to the ordinary expenditure £20 out of the £65 received from the sale of books have been set aside for binding

our valuable collection of pamphlets and short papers, of which £8 16s. 11d. had been expended at the end of the year.

Although the difference between our income and our expenditure has for some years been on the wrong side, and can only be brought to the right side by a considerable accession of members, or by a revolutionary reduction of expenditure, the financial position of the Institute is by no means alarming. The liabilities at the end of 1890 (other than our moral liability to our life members) were :—

			£	s.	d.
Rent for one quarter..	..	..	41	5	0
Two numbers of <i>Journal</i> , say	..	..	110	0	0
Small sundries, say ..	..	..	8	15	0
			<hr/>		
Total ..			£160	0	0
			<hr/>		

while the assets were: £800 stock, worth say £880, and cash in hand and at Bank £78 13s., in addition to a small sum likely to be received for unpaid subscriptions, and the library and stock of publications, the value of which is considerable, but difficult to estimate.

A. L. LEWIS,
Treasurer.

ANTHROPOLOGICAL INSTITUTE OF GREAT BRITAIN AND IRELAND

Receipts and Payments for the Year ending 31st December, 1890.

RECEIPTS.		PAYMENTS.	
£	s. d.	£	s. d.
BALANCES, January 1st, 1890:			
Cash in hand	3 11 0	RENT (including coal and gas), one year to Michaelmas, 1890	185 0 0
Petty Cash in hand	2 4 3	PRINTING JOURNAL, Nos. 68, 69, 70, 71 (including illustrations and Authors' copies)	215 11 6
SUBSCRIPTIONS:		SALARIES AND COLLECTOR'S COMMISSION	169 5 7
For year 1890	359 2 0	STAMPS AND PARCELS	89 17 5
Life Compositions	42 0 0	ADVERTISING	4 6 7
Arrears	50 8 0	PRINTING AND STATIONERY	20 4 2
SALE OF PUBLICATIONS:		HOUSE EXPENSES:	
Messrs. Trübner & Co.	77 2 8	Cleaning rooms	17 9 0
Messrs. Longmans & Co.	0 10 2	Attendance and Refreshments at Meetings ...	21 0 0
Office Sales	4 4 6	INSURANCE AND MISCELLANEOUS EXPENSES ...	38 9 0
BOOKS, &c., SOLD FROM LIBRARY	81 17 4	BINDING.....	4 3 1
METROPOLITAN BOARD OF WORKS 3½ PER CENT.	65 0 0	Less in hand	11 3 1
STOCK. £100 sold.....	111 4 6	BALANCES:	8 16 11
DIVIDENDS:		Cash at Bank, 31st December	59 18 2
Half-year on £900, and half-year on £800	29 0 2	Cash in hand, 31st December	3 18 6
of above Stock		Petty Cash in hand	3 13 3
		Cash in hand on Binding account	11 3 1
			78 13 0
			<u>£744 7 3</u>

A. L. LEWIS, Treasurer.

Examined and found correct,

(Signed) EDWARD W. BRABROOK, } Auditors.
ROBT. B. HOLT, }

The Secretary, Mr. F. W. RUDLER, read the following:—

REPORT OF THE COUNCIL OF THE ANTHROPOLOGICAL INSTITUTE
OF GREAT BRITAIN AND IRELAND FOR THE YEAR 1890.

During the past year eleven Ordinary Meetings have been held, in addition to the Annual General Meeting.

The following is a list of the various communications that have been submitted to the Institute during the year:—

1. Exhibition of some Skulls, dredged by G. F. Lawrence, Esq., from the Thames, in the neighbourhood of Kew. By Dr. Garson.
2. Characteristic Survivals of the Celts in Hampshire. By T. W. Shore, Esq., F.G.S.
3. Exhibition of Stanley's Spirometer. By J. G. Garson, Esq., M.D.
4. Some Borneo Traps. By S. B. J. Skertchly, Esq., F.G.S.
5. The Diëri and other kindred Tribes of Central Australia. By A. W. Howitt, Esq., F.G.S.
6. Exhibition of two Skulls from a Cave in Jamaica. By Professor Flower, C.B., F.R.S.
7. Manners, Customs, Superstitions and Religions of South African Tribes. By the Rev. James Macdonald.
8. Exhibition, by Isidore Spielmann, Esq., of a Skull, dredged up on the Manchester Ship Canal Works.
9. The old British "Pibcorn," or "Hornpipe," and its Affinities. By Henry Balfour, Esq., M.A.
10. The Ancient Peoples of Ireland and Scotland considered. By Hector MacLear, Esq.
11. Anthropometric Identification of Criminals. By M. Jacques Bertillon.
12. On a New Instrument for Measuring the Velocity of the Arm or other Limb. By Francis Galton, Esq., F.R.S., *Vice-President*.
13. On the Ethnographical Basis of Language, with special reference to the Customs and Language of Hunza. By Dr. G. W. Leitner.
14. On the Natives of the Interior of New Guinea, encountered on Sir William MacGregor's Expedition to Mount Owen Stanley. By A. P. Goodwin, Esq.
15. Exhibition of Two Crania from the Thames. By G. F. Lawrence, Esq.
16. Exhibition of a "Ulu" or Fetish, from the neighbourhood of Lake Nyassa. By Professor Flower, C.B., F.R.S.
17. The Nomad Tribes of Asia Minor. By Theodore Bent, Esq., M.A.
18. Notes on some North American Indians. By the Rev. E. F. Wilson.
19. A contribution to a Scientific Phrenology. By Bernard Hollander, Esq.
20. Exhibition of a Skeleton found at West Thurrock, Essex; and of Two Skulls recently exhumed within the City limits. By John E. Price, Esq., F.S.A.
21. On the Study of Ethnology in India. By H. H. Risley, Esq., M.A.
22. The Yourouks of Asia Minor. By J. Theodore Bent, Esq., M.A.
23. Stone Circles in Wiltshire. By A. L. Lewis, Esq.
24. An Apparent Paradox in Mental Evolution. By the Hon. Lady Welby.
25. Exhibition of Patterns of Finger-marks. By Francis Galton, Esq., F.R.S.
26. Exhibition of an Ethnographical Album of the Pacific Islands. By Messrs. J. Edge Partington and Charles Heape.
27. On the Source of the Jade used for ancient Implements in Europe and America. By F. W. Rudler, Esq., F.G.S.

In the course of the year four numbers of the *Journal* have been issued: namely, Nos. 70, 71, 72 and 73. These contain 495 pages of letterpress, and are illustrated by 15 plates and woodcuts.

Twelve new members have been elected during the year, viz., one honorary, and eleven ordinary members; but on the other hand the Council regrets to announce that the Institute has lost seven members by death, and that eight members have resigned. One annual subscribing member has been transferred to the list of compounders.

The following are the names of those whose deaths have been reported since the last Annual Meeting:—

J. Backhouse,	elected 1881.
Sir Richard F. Burton,	" 1863 (Founder A.S.).
F. W. Cosens	" 1864 (Founder A.S.).
Dr. G. Harris	" 1864 (Founder A.S.).
Dr. H. Muirhead	" 1867.
Miss North	" 1885.
W. Peppé	" 1869.

It will be seen that five out of the seven had been members for more than twenty years, while three of them were amongst the Founders of the Anthropological Society of London.

Obituary notices of Sir R. F. Burton, Dr. George Harris, Dr. Henry Muirhead and Miss Marianne North will appear in the *Journal* of the Institute.¹

In the following table the present state of the Institute, with respect to the number of members, is compared with its condition at the corresponding period of last year:—

	Honorary.	Corresponding.	Compounders.	Ordinary.	Total.
January 1st, 1890	42	76	92	223	433
Since elected ..	1	..	2	11	14
Since deceased ..	..	..	..	7	7
Since retired or been struck off	..	..	..	8	8
January 1st, 1891	43	76	94	217	432

Dr. Beddoe's term of office having expired, the Council has nominated as his successor Dr. E. B. Tylor, who occupied the Presidential Chair, with much advantage to the Institute,

¹ These have been published in the February number, vol. xx, 1891, p. 295.

during the sessions 1879-80, and 1880-81. The Council desires to express its appreciation of the services of Dr. Beddoe during his Presidency, and is aware that these services have often been rendered at much personal sacrifice in consequence of his residence at a considerable distance from London.

Mr. Rudler having expressed a desire to retire from the Secretaryship, the Council has nominated Mr. Cuthbert Peek as his successor.

The Reports were adopted on the motion of Mr. GREATHEED, seconded by Mr. W. H. COFFIN.

The PRESIDENT then delivered the following Address:—

ANNIVERSARY ADDRESS

By DR. BEDDOE, *President.*

I HAD to apologise, in my annual Presidential Address last year, for the fewness of the occasions on which I had been able to fulfil the first duty of a President. But to-day such an apology seems still more necessary. The state of my health since last spring has prevented me from once taking the chair at our evening meetings; and I must now take a final farewell of you in the capacity of Chairman. If I had fore-known what has happened, I would have done so earlier, and made way for a better man; as it is, I have had to rely on the ever-ready kindness of Mr. Rudler, and of the Vice-Presidents.

The Institute requires the active aid of all its friends, if it is to maintain the position that should be occupied by the only purely Anthropological Society in the greatest empire of this and of all time. It needs not only the continued services of its old friends, though among them we may reckon the masters of several departments of our science, and some of the most assiduous and catholic of labourers in the anthropological field. It needs new men, too, who will not only follow out the old lines, but invade new territories, or rather cultivate those corners of our territory which have been partially neglected, for instance, psychology, if indeed that great domain may be spoken of as a corner.

In psychology, as I am reminded by one of our oldest members, a great field lies open at our very doors, at present little cultivated, and by our own Society scarcely at all. He recalls to me, moreover, the dictum on this subject of Sir William Turner, one of the ablest and most valuable of our contributors.

"The physical aspect of the question, although of vast importance and interest, yet by no means covers the whole ground of man's nature, for in him we recognize the presence of an element beyond and above his animal framework."

Sir William is himself eminently, I might perhaps say exclusively, a physical anthropologist; and as one who has also worked entirely in that department, I feel all the more need of our encouraging the workers in this remote and difficult, but most important domain, to come among us and help us.

I grant that the leading anthropological societies on the continent, like our own, confine themselves too much to the material side, to the study of the physical characteristics of ancient and modern man, and to that of the archæological material which is always turning up in more and more abundance. We have, however, some claim to have been their fore-runners and leaders in these lines, and it should be our ambition not merely to keep abreast of our foreign friends, but to be their leaders "into fresh fields and pastures new."

In looking at their actual position, we naturally turn first to France, which the genius of the great Broca placed a generation ago in the first rank. She had even then several other anthropologists of light and leading; the now venerable Quatrefages, for example, was already conspicuous; but Broca was a man who positively radiated science and the love of science; no one could associate with him without catching a portion of the sacred flame. Topinard has been the Elisha of this Elijah; and in some of his pupils we recognize a third generation of strenuous workers in our field. The friendly relations which he has always cultivated with our British anthropologists, particularly with Professor Flower and Dr.

Garson, led, as some of you are aware, to a very profitable international agreement in the matter of craniometrical nomenclature. We must all regret that owing to the, to us, inexplicable action of the French authorities, Topinard's public usefulness as a Professor has been diminished, but in the new journal, "*L'Anthropologie*," in conjunction with Cartailhac and Hamy, one finds plenty of evidence of his continued activity.¹ Many recent papers in "*L'Anthropologie*" are of interest and importance; for example, a series by MM. Deniker and Laloy, on the Exotic Races at the Exposition of 1889, well illustrated by photographs. Among the races described from living specimens are the Adouma, who dwell on the banks of the Ogowé River immediately to the south of the equator, between the Okanda and the Batoké. These people are small though not dwarfish; of eight Adouma, the tallest was shorter than the shortest of eight Okanda, the mean of the Adouma being 1.59 metre, or about 5 feet 3 inches, and that of the Okanda 1.70 metre, over 5 feet 9 inches. Moreover, while the Okanda are dolicho or mesocephalic, the Adouma are mostly brachycephalic; they are also somewhat lighter in colour and a little less prognathous, and have somewhat more of the pepper-grain or Hottentot-like disposition of the hair on the head. All these points may with some probability be taken to indicate that their tribe is a product of the mixture of negro blood with that of the Akkas or Ashongo the dwarfish and shorthheaded race of whom we have heard so much lately, the pigmies of Herodotus. The only thing wanting, apparently, is the downy covering of the skin.

M. Bertholon describes two probably Phœnician skulls found in Tunisia, and agreeing in form with those which have hitherto been ascribed to this race. They are of good size, mesocephalic (77.80), with the forehead narrow, the anterior temporal region flat, the frontal bosses replaced by a single

¹ Quite recently the Académie des Sciences (Institute of France) has marked its sense of the great value of his investigations into the distribution of the colours of the eyes and hair in France, by adjudging to him the Montyon Statistical Prize.

median prominence, a certain degree of parieto-occipital flattening, and parietal bosses well-marked, but placed so far forward as to be immediately above the auricular meatus, so that the vertical aspect is a kind of lozenge. These characters are fairly distinctive, and resemble those of Sir R. Burton's crania from Palmyra, described by Carter Blake, and those of Mantegazza and Zanetti from Sardinia.

Bertholon affirms, on the strength of nearly 3,000 measurements of modern Tunisian skulls and heads, that this type no longer exists in the country. It is difficult to imagine that the Carthaginian blood, once dominant there, can have so utterly disappeared.

An ethnological paper of a rare kind, and which one welcomes accordingly, is a detailed account of the inhabitants of Kerassund in Anatolia, by Aristotle Neophytos. A good description *from within* of a semi-civilised people is a rare thing.¹

There are many men of light and leading among contemporary French anthropologists, such as the Baron de Baye, who fills there the place of General Pitt-Rivers among us, such as De Mortillet, De Nadaillac, Lagneau, Bertillon, Collignon, every one standing at the head of his own department. But in Germany, though we do not forget Schaafhausen and Ranke, and Von Hölder, Virchow seems to tower above everybody else much as Broca did in France in his own day; like him he is the founder of a school, the kindling torch of anthropology in his country, which is fortunate beyond France, inasmuch as it still retains him, in seemingly unabated power and activity, in this his 70th year, while Broca was lost to his country and to science while yet in middle life.

It is more especially physical anthropology which flourishes under his rule, but also prehistoric and proto-historic archæology.

¹ The School of Lyon sends us an elaborate memoir, by Dr. Testut, on the Quaternary Skeleton of Chancelade in the Dordogne. The author concludes that the man of Chancelade, small of stature, strong and coarse of limb, with a long, high, and finely-developed skull, bore a considerable resemblance to the modern Esquimaux, confirming hereby the conjecture put forth by our own Boyd Dawkins, ere yet quaternary man was certainly known except by his works.

There is a wide field in these latter departments, on which the Germans entered much later than we; but having entered it, they are prosecuting it, as well as physical anthropology, with characteristic industry and tenacity. Thus the early relations of the Germanic and Slavic races are being gradually worked out. But the most remarkable papers which have come in my way from Germany are craniometrical. Von Erckert continues to publish his measurements and descriptions of Caucasian heads and features. The Chetchenzes come out strongly brachycephalic, as a rule, and almost all of them have thick black hair. The true Circassians, the Adighé and Kabardians, have longer heads: the average breadth index in 22 is 81·8, which, if we allow 2·0 for the fact of the measurements being taken on the living head, places them just below the limits of brachycephaly. This I should have expected, but it somewhat surprises me to find that their hair, when mentioned, is invariably described as black; for I saw, in the Crimean days, a fair minority of more or less blond Circassians in Constantinople. I believe Virchow disproved the old belief that the Ossetes were blond Aryans. Von Erckert says their hair is almost always black. Their living breadth index is 80, which makes them mesocephalic. So too are the Mingrelians and Guriels apparently, though of them Von Erckert has not observed many. He notes, however, that many Mingrelians and Imeretians are blond. Now I had it, years ago, on the authority of Sir Henry Rawlinson, that curly yellow hair was not uncommon in Mingrelia. Sir Henry, who had little belief in the permanence in colour, thought it possible that the Egyptian colony, which Herodotus said had been planted in Mingrelia, might have perpetuated their curly hair but changed its colour, or that light red hues might have come out by crossing with their neighbours, as is said to be the case with mulattos in the southern states of America. Von Erckert notes the thick prominent lips of several of his Mingrelians, but does not mention curly hair.

Of 21 Armenians, 20 are more or less brachycephalic; indeed

their average index (living) rises to 85·7. They are orthocephalic, having loftier heads than any of the other Caucasian races. I shall refer to this point again presently.

The Jews of the Caucasus (*Berg-juden* as Von Erckert calls them) yielded him, on an average of 10, a breadth index of 86·7, so that in the skull they must have approached the limit of hyperbrachycephaly very closely, more closely than any other tribe investigated by Von Erckert. Polish Jews, according to Majer and Kopernicki, average (living) an index of 83·5, but this is less than that of the Poles and Ruthenians among whom they dwell. These so-called Mountain Jews may of course be largely the descendants of proselytes, but obviously that theory would not fully account for this extreme brachycephaly. Moreover, Von Erckert, while he finds a Jewish caste of physiognomy frequent among the other tribes, notes it almost universally among these Jews. The type of other Semites, Bedaween and Phœnicians, so far as we know, is dolicho or mesocephalic. There is a mystery here for solution.

Another interesting craniometrical paper in the Archiv is that of Dr. Von Luschan on the modern descendants of the Ancient Lycians. He shows that the people of the Greek nationality in Lycia, as well as in the neighbouring islands, are a mixed race of at least two heterogeneous elements, one long and one short-headed, while the *Takhtaji* or foresters, and the *Bekdash*, whom he believes to represent the ancient Lycians, have but one type, which is short-headed. He shows that of 179 living Asiatic and Asia-insular Greeks, 79 were dolicho (under 77), only 16 mesocephal, and 83 brachycephal, there being two maxima in the curve, one at 75, and one at 88, or in the skull say 73 and 86. On the other hand, 13 *Takhtajis* yielded him indices of 81·7 to 91, or 40 *Bekdash* of 84 to 89, with averages of 85·7 and 86·9, and with great elevation. With three exceptions, the whole 53 had dark eyes and black hair. He finds the same form of skull among the Armenians, and you will recollect that Von Erckert's observations on the Armenians agree with Von

Luschan's, so far as regards the brachycephaly and the great height.¹

Some of the long "Greek" skulls, on the other hand, he considers to be Semitic in form, resembling those of some Bedaween. The inference is that the Solymi and other ancient inhabitants of the S.W. coastlands of Asia Minor were really of Semitic origin, as has been supposed on other grounds. Von Luschan finds a similar type of skull common at Adalia, where also the facial aspect and the female hair-dress are distinctly Semitic.

There may be, doubtless there are, other elements in this so-styled Greek population; the old Hellenic invaders may have contributed an element to both divisions, but Von Luschan's argument for the presence of one race-type akin to the Armenian, and another akin to the Arabian, appears *prima facie* very strong.

A copy of Dr. Henne am Rhy's work on the "History of Civilization among the Germans," came recently under my notice. It contains much matter of anthropological interest. Among the illustrations is a design from the Evangelium of the Emperor Otto III, containing four female figures intended to represent Roma, Gallia, Germania, and Selavinia. Of these Roma has fair skin and dark hair, Gallia has both skin and hair dark, Germania a fair skin and very light hair, Selavinia a dark skin and darkish hair.

The modern Slaves, though their features as well as their language suggest the presence of a common element in all their widely dispersed divisions, vary considerably in respect of colour. But the account given by Procopius indicates that those known to him, though a rather light-haired race, were distinctly not so fair as the Germans. If the Chechs of Bohemia supplied material for the ideal portrait just mentioned (and it is

¹ Mr. Bent's papers should be read in connexion with this subject. There is a tribe of nomadic wood-cutters in the Troad, shortheaded, with Turanian features; but they are called Turcomans by the settled population, while the pastoral nomads are called Yoruks.

likely enough that they did, from their westerly position and close contact with the Franconians), one may recognize the accuracy of the draughtsman, for the Chechs were and are a dark race as compared with the people of middle Germany.

But if we allow that the portrait of Gallia is equally correct, it follows that nearly a thousand years ago the descendants of the Gauls were, in German eyes at least, already a dark race. I observe that Professor Huxley, in his recent article on the great Aryan question, emphasises his belief that the old Gallic conquerors of Italy and Galatia were mostly if not wholly a xanthous race. Of course there is much to be said for this opinion; but the evidence of Ammionus Marcellinus for the xanthosity of the Gauls in the fourth century is quite as good as any we have relating to earlier periods. Yet in the tenth century we find the evidence just mentioned that a change had taken place in the recognized national type, and that in the direction of darkening, notwithstanding a considerable influx in the meantime of the blond element, in the form of Franks, Visigoths and Burgundians. Had there been a real change of type as Professor Huxley seems to think? Or was it merely that the same phenomena wore a different aspect when regarded by a dark southern and a blond northern people? Or was it that the successive strata of blond conquerors from the north were continually eroded by the influence of processes of selection, until the original substratum of dark Ibero-Kelts was laid bare?¹

An architectural paper by Henziker of Aarau in Switzerland, in the transactions of the Berlin Society, seems to me deserving of notice. The subject is the Rhæto-Romanish House. Henziker maintains that the people of southern Switzerland built in stone, till the Alemanni, coming in from the north, brought in the fashion of log-huts. A very striking point is,

¹ Or was it the Romans took no account of the mass of dark undersized plebeians, and that their descriptions referred only to the military aristocracy? Durand, writing of the people of the Rouerge (Aveyron), takes the last view, and affirms that the same distinction still exists.

that Henziker found, in the Blegno valley in Ticino, certain peculiarities in the pattern of the house which he ascribes to Teutonic influence. But the Alemanni never occupied that valley, whereas the Lombards almost certainly did, and the writer points out that the Blegno valley contains a remarkably large proportion of blond blue-eyed persons. I made the same observation myself some years ago, and noted the very English aspect of the children. The Lombards, we know, were of our nearest kin; and many Saxons accompanied them in their invasion of Italy. The guarding of the northern frontier might account for their settling thickly in this Alpine valley, and natural selection might aid the preservation of their type here rather than in the hot plains of Lombardy.

Zuckerlandl's paper on the physical characters of the populations of Austria, read at the Vienna Congress, contains some remarkable, if not quite unexpected, facts respecting the predominance of brachycephaly in the Germans of Styria and Carinthia, as well as in the Slovens of Carniola, where, however, it attains higher proportions. Taking Styria and Carinthia together, Zuckerlandl found about 5 per cent. of dolichocephals, 24 per cent. mesocephals, 50 brachycephals, and 23 hyperbrachycephals. Yet the only five prehistoric skulls that have been found in these provinces are dolichocephal, and so are 42 per cent. of ancient skulls from Carinthia. This great metamorphosis is also common, as we were previously aware, to Bavaria, Swabia, Austria, and Bohemia; nor has it yet been thoroughly explained.

Our Russian brethren make considerable use of the immense mass of anthropological material which their enormous dominion offers to them. Bogdanoff, Anuchin, Smirnoff, De Gondatti, Kharousin, Tarenetsky, and others are active and fruitful labourers. The recent Anthropological Congress at Moscow lasted fifteen days, and was admirably presided over, says M. Cartailhac, who was present, by a lady, the Countess Ounvaroff.

Dr. Pauline Tarnofsky, a Russian lady, has produced a very

remarkable work, most favourably reviewed in "*L'Anthropologie*." She compares the cerebral development in four classes of women, harlots, thieves, peasants, and educated women, all drawn from Great Russia. The result is that in size of brain, and more especially in frontal development, the four form a regular progression, the thieves standing above the harlots, the peasants coming next, and the educated, as might have been expected, at the top. It is to be noted that the educated are the most dolichocephalic, contrary to what Schaafhausen's theory would require.

Except the fine work of MM. Siret and Victor Jacques, who are not Spaniards but, I believe, Belgians, we have had little from Spain for a long time. But the delay is to a great extent made up for by the admirable piece of work which has been now brought out by Dr. Telesforo de Aranzadi-y-Unamuno.

The Biscayans are said to be an obstinate people. The right side of obstinacy is perseverance, and Dr. Aranzadi is the most persevering of men. He has produced a monograph on his countrymen the Basques, small indeed in bulk, but more complete and thorough than any similar publication with which I am acquainted. It does not lend itself well to so brief a review as I could just now give to it. All the leading physical characteristics have been fairly worked out; stature, colour, head-form, facial features, &c. The average cephalic index (living) is 79, not far from that given by Broca. There is a good deal of variety in colour and stature, but the average of stature in conscripts seems to be about 163 centimeters (5 feet 4 inches). Aranzadi thinks there is in his countrymen a Finnish as well as an Iberian or Berber element, with a later Kimric or Gothic cross. His work is richly illustrated with maps, tables, and portraits, and has been published, as it deserved to be, at the expense of the province of Guipuzcoa.

With these brief notes and summaries I quit our foreign brethren and their labours. As for our own, the report of the Council has, I think, summarised them. We have had some excellent papers, and I believe we might have had more had

we had the means to publish them in full, and with sufficient illustrations. We have no support, and but very little encouragement, from Government; though it must be allowed that the Indian authorities have helped us somewhat, in favouring the collection by Mr. Risley of his anthropometrical statistics. The field open to us is wider and more varied than that of any other nation; even if, with Deniker, we reckon so many as 13 varieties of man, the British Empire includes portions of no less than 11 of these. Even within our own islands there is plenty of material unwrought. The Archæological department, though the oldest and the most generally attractive, and, therefore, the most diligently laboured, has yet many secrets to yield up; witness the late discoveries at Rushmore, and at Silchester. In Scotland, Mitchell and Munro, and Joseph Anderson, and David Christison are proceeding with national caution, and building up masses of knowledge in detail; but they hesitate to generalise much as yet. There are few islands in all our wide empire of more varied interest than the Isle of Man, placed as it is between the three (or should we say four) great divisions of the British Isles, partaking of the character of all of them, yet having its own distinct peculiarities even, in outward aspect. Mr. Arthur Moore's recent book on the surnames and place-names of the Isle of Man, deals admirably with its subject.

As for Ireland, that distressful country yields us nothing at all. Its ancient history is only too abundant and too eloquently told, but it passes our wit to interpret it. There is plenty of gold in the soil, much of it of beautiful workmanship; but I am told that it is usually found, not by direct and purposed exploration, but in trenching deep for potatoes. Let us hope the day may come when the gold of science may be unearthed for us in Ireland; it will probably be equally brilliant and unexpected.

I now quit this chair without further apologies. I accepted it in obedience to your wishes, and have done my best in it, though that best has been so poor. In my successor you have

one whom I need not praise; you know the man, and his ability and great achievements.

My period has been one of scientific congresses, held mostly in Paris; but this year will see two in London, both of great interest to us; the Congress of Hygiene and Demography, and the International Congress of Orientalists, of which our friend Dr. Leitner is an Honorary Secretary, and which promises to be of unusual fulness and importance. Several of our officials have already joined it, and I venture to express a hope that under my successor the Institute may join as a body, as the Paris Society has already done.

It was moved by Professor FLOWER, seconded by Dr. TYLOR, and unanimously resolved—

“That the thanks of the meeting be given to the President for his Address, and that it be printed in the *Journal* of the Institute.”

The SCRUTINEERS gave in their Report, and the following gentlemen were declared to be duly elected to serve as Officers and Council for the year 1891:—

President.—E. B. Tylor, Esq., D.C.L., F.R.S.

Vice-Presidents.—E. W. Brabrook, Esq., F.S.A.; Hyde Clarke, Esq.; F. W. Rudler, Esq., F.G.S.

Secretary.—Cuthbert Peek, Esq., M.A., F.S.A.

Treasurer.—A. L. Lewis, Esq., F.C.A.

Council.—G. M. Atkinson, Esq.; H. Balfour, Esq., M.A.; C. H. E. Carmichael, Esq., M.A.; Rev. R. H. Codrington, D.D.; J. F. Collingwood, Esq., F.G.S.; J. G. Garson, Esq., M.D.; Hellier R. H. Gosselin, Esq.; Sir Lepal Griffin, K.C.S.I.; T. V. Holmes, Esq., F.G.S.; H. H. Howorth, Esq., M.P., F.S.A.; R. Biddulph Martin, Esq., M.A.; Rt. Hon. the Earl of Northesk, F.S.A.; F. G. H. Price, Esq., F.S.A.; Charles H. Read, Esq., F.S.A.; I. Spielman, Esq., F.S.A.; Oldfield Thomas, Esq., F.Z.S.; Coutts Trotter, Esq., F.G.S.; Sir W. Turner, LL.D., F.R.S.; M. J. Walhouse, Esq., F.R.A.S.; Gen. Sir C. P. Beauchamp Walker, K.C.B.

A vote of thanks to the retiring President, the retiring Vice-President, the retiring Secretary, the retiring Councillors, the Treasurer, and the Scrutineers, was moved by Mr. BRABROOK, seconded by Mr. COLLINGWOOD, and carried by acclamation.

ANTHROPOLOGICAL MISCELLANEA AND NEW BOOKS.

The PATTERNS in THUMB and FINGER MARKS: on their arrangement into naturally distinct Classes, the Permanence of the Papillary Ridges that make them, and the Resemblance of their Classes to ordinary Genera. By FRANCIS GALTON, F.R.S.

(From the "Proceedings of the Royal Society," Vol. xlviii, p. 455.)

(Abstract.)

THE memoir describes the result of a recent inquiry into the patterns formed by the papillary ridges upon the bulbs of the thumbs and fingers of different persons. The points especially dwelt upon in it are the natural classification of the patterns, their permanence throughout life, and the apt confirmation they afford of the opinion that the genera of plants and animals may be isolated from one another otherwise than through the influence of natural selection.

The origin of the patterns was shown to be due to the existence of the nail, which interfered with the horizontal course of the papillary ridges, and caused those near the tip to run in arches, leaving an interspace between them and the horizontal ridges below. This interspace was filled with various scrolls which formed the patterns. The points or point at which the ridges diverged to enclose the interspace were cardinal points in the classification. It was shown that there were in all only nine possible ways in which the main features of the inclosure of the interspace could be effected. In addition to the nine classes there was a primary form, occurring in about 3 per cent. of all the cases, in which the interspace was not clearly marked, and from this primary form all the other patterns were evolved. The forms of the patterns were easily traced in individual cases by following the two pairs of divergent ridges, or the one pair if there was only one pair, to their terminations, pursuing the innermost branch whenever the ridge bifurcated, and continuing on an adjacent ridge whenever the one that was being followed happened to come to an end. Twenty-five of the principal patterns were submitted, and a few varieties of some of them, making a total of 40. They are by no means equally frequent.

The data as to the permanence of the patterns and of the ridges that compose them were supplied to the author by Sir W. J.

Herschel, who, when in the Indian Civil Service, introduced in his district the practice of impressing finger marks as a check against personation. Impressions made by one or two fingers of four adults about thirty years ago, and of a boy nine years ago, are compared with their present impressions. There are eight pairs of impressions altogether, and it is shown that out of a total of 296 definite points of comparison which they afford, namely, the places where ridges cease, not one failed to exist in both impressions of the same set. In making this comparison, no regard was paid to the manner in which the several ridges appear to come to an end, whether abruptly or by junction with another ridge. The reason was partly, because the neck where junction takes place is often low and may fail to leave a mark in one of the impressions.

Lastly, the various patterns were shown to be central typical forms from which individual varieties departed to various degrees with a diminishing frequency in each more distant degree, whose rate was in fair accordance with the theoretical law of frequency of error. Consequently, wide departures were extremely rare, and the several patterns corresponded to the centres of isolated groups, whose isolation was not absolutely complete, nor was it due to any rounding off by defined boundaries, but to the great rarity of transitional cases. This condition was brought about by internal causes only, without the least help from natural selection, whether sexual or other. The distribution of individual varieties of the same patterns about their respective typical centres was precisely analogous in its form, say, to that of the Shrimps about theirs, as described in a recent memoir by Mr. Weldon (*"Roy. Soc. Proc.,"* No. 291, p. 445). It was argued from this, that natural selection has no monopoly of influence either in creating genera or in maintaining their purity.

"MODERN CUSTOMS AND ANCIENT LAWS OF RUSSIA; being the Ilchester Lectures for 1889-90." By Maxime Kovalevsky. (David Nutt.) 7s. 6d. The volume contains six essays, the outline of lectures delivered at the Taylorian Institution, Oxford. The lecturer states that his chief purpose was to show how far the ancient laws of Russia have been preserved by the still-living customs of the country people, and to what extent the modern political aspirations of the nation are rooted in its historical past. The titles of the lectures are as follows:—(i) "The matrimonial customs and usages of the Russian people, and the light they throw on the evolution of marriage." (ii) "The state of the modern Russian family, and particularly that of the joint or household community of Great Russia." (iii) "The past and present of the Russian village community." (iv) "Old Russian folknotes." (v) "Old Russian parliaments." (vi) "The origin, growth, and abolition of personal servitude in Russia." The work is well indexed.

"PRIMITIVE FOLK. Studies in Comparative Ethnology." By Elie Reclus. (W. Scott.) 3s. 6d. The Contemporary Science Series. This work (as its title implies) passes in review the more primitive races of mankind, describing in turn, the Eastern Inuits, the Western Inuits, the Apaches, Nairs, Mountaineers of the Neilgherries, Todas, Badagas, Cotas, Irulas, Curumbas, Kolarians, &c.; also human sacrifices among the Khonds. The author states in the preface, "These studies are drawn, for the most part, from the information given by travellers and missionaries during the first half of the century, about countries and tribes of which the social condition has since been deeply modified." The work is well indexed.

"RACES AND PEOPLES: Lectures on the Science of Ethnography." By Daniel G. Brinton, A.M., M.D., Professor of Ethnology at the Academy of Natural Sciences, Philadelphia. 8vo. 1890. 9s. The volume consists of a reprint of the lectures delivered at the Academy of Natural Sciences, Philadelphia, 1890. The titles of the lectures are:—(i) "The physical elements of ethnography." (ii) "The psychical elements of ethnography (a. The associative elements; b. The dispersive elements)." (iii) "The beginnings and sub-divisions of races." (iv) "The Eurafrican race; South Mediterranean branch (a. The Hamitic stock; b. The Semitic stock)." (v) "The Eurafrican race; North Mediterranean branch (a. The Euskaric stock; b. The Aryac stock; c. The Caucasian stock)." (vi) "The Austafrican race (a. The Negrillos; b. The Negroes; c. The Negroids)." (vii) "The Asian race (a. The Sinitic branch; b. The Sibiric branch)." (viii) "Insular and Littoral peoples (a. The Negritic stock; b. The Malayic stock; c. The Australic stock)." (ix) "The American race." (x) "Problems and Predictions." The volume contains illustrations and ethnic charts.

"THE VIKINGS OF WESTERN CHRISTENDOM." By C. F. Keary, M.A., F.S.A. With map and tables. (T. Fisher Unwin.) 16s. The period dealt with in this work extends from A.D. 789, the attack on the Dorset coast, to A.D. 888, the defeat of the Vikings by Odo, at Montfaucon. The principal sections into which the book is divided are Heathendom; the creed of Heathen Germany; Christendom, and the changes in Christianity at the time of the influx of the barbarians. The first contests. The character of the Vikings. The Vikings in Ireland. The conquests of Christianity. Civil war, and the forces tending to the disintegration of the Empire. Peace of Verdun. Raids on the Frankish Empire, A.D. 834-845. Defences broken down, A.D. 846-858. Decay and reintegration, A.D. 859-866. The Great Army. Pause in the Viking raids. Charles the Fat. The invasion of Germany. The Siege of Paris, A.D. 885; with a general review of the creed of Christendom during the period. Genealogical and chronological tables are given, and the volume is well indexed.

PEOPLE OF THE GOLD COAST.

THE FOLLOWING IS EXTRACTED from "Reports on Her Majesty's Colonial Possessions, No. 110, Gold Coast." The population is estimated at 1,406,450, giving an average of 41.4 to the square mile. The greater number of these are scattered through the interior of the country in small villages situated in clearings of the forest. There are few towns, the seats of the principal chiefs, which may contain 1,000 to 2,000 inhabitants each, but, as a rule, the number is under 100. Each village is surrounded by a thick growth of plantains, which affords the principal food for the people, and in the neighbourhood are the small clearings where they grow their corn (maize), yams, and other vegetables. As a rule, each family grows its own food in a separate patch, these patches seldom exceeding an acre in extent, but when a whole village combines, an area of from ten to twelve acres is cleared and planted with maize, which appears to be the only crop grown in co-operation, and even in such cases the portion of each is carefully marked out. Most of the land is held by families in common, the quantity in private hands being comparatively small. Each member of the family has the right to select a portion of the common land for cultivation, but cannot acquire exclusive possession thereof, and alienation can only be effected by the unanimous consent of the family. If, however, any member plants trees, he has an exclusive right to the fruit thereof, but cannot transmit that right to his descendants. The powers of the head of the family vary with his personal influence and character, but to him belongs the right of allowing strangers to cultivate, receiving the fees therefor (usually consisting of a flask of rum, a head of tobacco, and a shilling in money), and of permitting the cutting of palm trees for wine.

When granting permission to cultivate, the privilege of cutting oil palms is always reserved, but the temporary tenant does not appear to be restrained from gathering for his own use such nuts as may ripen during his occupation.

The boundaries between estates are marked by natural objects, such as rocks, trees, rivers, &c.; but as the memory of "the oldest inhabitant" is the only test, boundary disputes are frequent.

The leasing of land for a term of years is unknown. A man having no land of his own, goes to a neighbouring landowner, and, on paying the small fee mentioned above, obtains leave to cultivate; but when he takes off his crop, he vacates the land. Estates, however, are frequently pawned or mortgaged for money lent, the pawnee or mortgagee acquiring thereby the right to use the land as his own (except that he may not cut the oil palms) until the loan is repaid, the use of the land standing in lieu of interest. In this manner estates are frequently transferred and pass from heir to heir of the mortgagee, the mortgagor or his representatives, retaining the right to redeem the property by repayment of the loan at any time.

Under similar conditions similar phenomena will always recur, and in the Gold Coast Colony as in all poor agricultural communities the money lender is the tyrant of his neighbourhood. As far as his personal wants are concerned, the natives of the interior of the colony can live without money. He owns a few plantain trees in the village patch which supply him with the material of his staple food, *fufúl*, his corn and vegetable patch not only give him enough for his own use, but a surplus to be bartered for fish and other necessities or sold for money to buy cloth, tobacco, &c., the marketing being done by his wives, and he lives free from care. But if a death occurs in his family, if he should be so unfortunate as to lose a wife, a child, his father, or, most important of all, an uncle, all is changed. "Custom" must be made regardless of expense. Guns must be fired, rum must be provided, and every comer must be entertained for at least a week after the death.

The "Custom" must be repeated after an interval of six weeks, and a third time after the lapse of a year. Sacrifices of goats and sheep must be made at the funeral, and at other times as directed by the "fetishman," and perhaps fetish made to lay the ghost of the deceased. For this outlay, the labour of himself, and wives, and family no longer suffices; he goes to the "Broompon," the rich man of the neighbourhood, and obtains a loan. Henceforth, till the money is repaid, he is a slave. Interest at 50, 75, or 100 per cent. is added to the principal, and until the loan is repaid, the debtor must work for his creditor two days in each week, nothing being allowed for his labour. This may, and frequently does, go on for years, until the debtor is fortunate enough to find means to pay both principal and interest. A man may be held for the debts of his deceased relatives as well as his own. The man who makes the "Custom," is responsible for the debts of the deceased, and in the courts of the chiefs, judgment will be given against him and his person held until payment or an arrangement is effected.

"Customs" are probably responsible for seven-eighths of the debts in the country, and weigh like an incubus on its prosperity by causing a vast amount of useless expenditure and implanting in the people a love of drink and idleness. The observance is enforced by superstition and submitted to from fear; fear of the anger of the dead, fear of the wrath of the fetish, and fear of public opinion, which applauds the man who makes a "big custom," and stigmatizes as "stingy" the man who spares on such an occasion with all the power which a small community can bring to bear on every member of it.

A CURIOUS CUSTOM IN SICILY.

"FOREIGN OFFICE REPORT, No. 813—Italy." 1891, p. 32. Mr. Rainford reported a characteristic example of the pilgrimages made in Sicily; that to the shrine of the "Madonna della Catena," near Messina, he describes thus:—At a mountain town called Mongiuffi Melia, a village distant some 50 miles from Messina, there is a "festa" in September called the Madonna of the Chain (Madonna

della Catena). If a man is dangerously ill, or in trouble, or in love or for whatever reason it may be, he vows to go for one, two, or three, or four years to the pilgrimage of the "Madonna della Catena." This pilgrimage is a remnant of the Middle Ages. The men who have vowed strip themselves of all but a cloth about their loins. They have in their hands soft pieces of pithy wood called "sferza" about the diameter of a penny piece, through which are stuck from forty to fifty pins, their points projecting one-eighth of an inch. The procession starts from Monginffi Melia to the chapel of the "Madonna della Catena," about four miles distant; the men stab themselves with these pins in the shoulders, breast, thighs, and legs, shouting all the time; the women encourage them with wine and bread; and a priest leads the way with a banner. When I saw this, there were over a hundred men in the procession, and the stabs over and over again on the same spots caused horrible bleeding tumours; two deaths during the time I have known of this "festa" have occurred. The women who have made vows pass their tongues upon the ground through every impurity from the church door to the high altar. The men, I believe, never break a vow when made under the sense of religion.

"THE AMERICAN RACE." A linguistic classification and ethnographic description of the native tribes of North and South America. By Daniel D. Brinton, M.D., New York. (Hodges and Co.) 1891. The author in his preface states: "So far as I know, this is the first attempt at a systematic classification of the whole American race on the basis of language. I do not overlook Dr. Latham's meritorious effort nearly forty years ago; but the deficiency of material at that time obliged him to depart from the linguistic scheme and accept other guides." The contents of the volume are as follows:—Racial history and characteristics. *North American Tribes*—(1) The North Atlantic Group; (2) The North Pacific Group; (3) The central group; *South American Tribes*—(1) The South Pacific Group; The Columbian and Peruvian Regions; (2) The South Atlantic Group, the Amazonian and Pampean regions; linguistic appendix, vocabularies, and index of authors.

"THE DARWINIAN THEORY OF THE ORIGIN OF SPECIES." By Francis P. Pascoe, F.L.S., Ex-president of the Entomological Society. (Gurney and Jackson.) 1890. "Natural selection is assumed to depend on a power in every organism—past and present—intently watching every variation, rigidly destroying any in the least degree injurious, and picking out, with unerring skill, all that in the future, by gradual accumulations, give a better chance in the struggle for life. It is necessary to keep this power always in mind whenever we talk of natural selection, if we would fully understand the objections to the theory urged in these pages."

"EXPLORATORY SURVEY OF PART OF THE LEWES, TAT-ON-DUC, PORCUPINE, BELL, TROUT, PEEL, AND MACKENZIE RIVERS." By William

Ogilvie. 1887-8. Ottawa, 1890. The survey covers a large portion of the North-West Territories of Canada, and incidental mention is made of the Indians. The Indian population in the Mackenzie Basin proper, Rampart House, on the Porcupine, and La Pierre's House, on Bell River is given as 3,961 in 1881; the native population in the country round Peace river and the lakes being stated by Father Grouard to amount to 1,700.

"THREE YEARS IN WESTERN CHINA." By Alexander Hosie, M.A., H.B.M. Consular Service, China. (George Philip.) 8vo. The volume describes Western China as seen by the author in 1882-4. A portion has already appeared in the Proceedings of various Societies, much new matter being added. The country explored is between 25 and 30 degrees north latitude, and 100 and 108 degrees east longitude. A description of the Lolos, with vocabulary of numerals, is given, together with important information as to the trade and products of the district. The volume closes with exercises on the Phö language, spoken by the aborigines of Kuei-chow (approximate) latitude 27 degrees north longitude 107 degrees west.

AMERICAN MOUNDS. "NATURE," January 1st, 1891, reprints from the "American Naturalist" a paper on the "Ancient mounds at Floyd, Iowa." By C. L. Webster. In one of the mounds five human bodies were found, of which details are given. The paper concludes by stating that other mounds will be explored as occasion offers.

USE AND DISUSE. January 8th contains a review, by Mr. G. J. Romanes, of "Are the effects of use and disuse inherited?" An examination of the view held by Spencer and Darwin. By William P. Ball. Mr. Romanes sums up by stating, "In conclusion, we must add that Mr. Ball's analysis, as a whole, appears to us to stagger the theory of use inheritance more seriously than ever it has been staggered before; and therefore that no one who henceforth writes upon the subject can afford to disregard his treatment of the question, 'Are the effects of use and disuse inherited?'"

Vol. iii of the "Internationales Archiv für Ethnographie," contains a paper on Maya antiquities, on stone adzes from Surinam, the ethnography of Borneo, &c. The illustrations are stated to be remarkably good.

January 22nd contains an important paper by Prof. Haddon, commenting on the fact that our Indian dependencies form a vast field for ethnological enquiry, which has not as yet been sufficiently cultivated. Prof. Haddon advocates the establishment of a Bureau of Ethnology, which would stimulate original research. The paper contains illustrations of a silversmith, a Tamil woman, and some ornaments.

February 5th contains a note, by Mr. Worthington Smith, on the skeleton of a Brachycephalic Celt, found while excavating in Albion Road, Dunstable.

"THE AMERICAN ANTHROPOLOGIST," Vol. iii, No. 4, contains, with other notes, the address of the Vice-President (Frank Baker), before the section of anthropology, American Association for the Advancement of Science, at the Indianapolis Meeting, August 20th, 1890, the subject being "The Ascent of Man." The scope of the address is thus stated at the commencement:—"Within comparatively recent times still another avenue of information has been found, for we have learned that it is not alone by external records that man's history can be traced, but that important facts may be obtained by studying the constitution of his body; that the changes and vicissitudes of his existence are recorded on his very bones, in characters long undeciphered, but to which the clue has at last been found. My labours have led me more particularly to this department of anthropology, and a concise summary of the main heads of this research may be of value and interest."

"Gens and Sub-Gens," as expressed in four Siouan languages.

"Excavations in an ancient soapstone quarry in the district of Columbia." By William H. Holmes (with plate illustrating tools found).

"Writing materials and books among the Ancient Romans." By A. P. Montague. The subject is divided into the following heads, and each is carefully considered:—

1. The materials used as paper.
2. The ink.
3. The pen or pencil.
4. Books.

"Indian origin of Maple Sugar," by H. W. Henshaw, contains an account of the Indian method of manufacture, with some remarks on the etymology of its Indian name.

Secret Societies among the Coast Indians of British Columbia and Alaska are stated to be described by J. A. Jacobsen, in "Das Ausland." Nos. 14, 15 (pp. 267-9, 290-3).

Mr. R. E. C. Stearns describes the games of "Ha," as played by the Nishinam Indians.

"Aboriginal Fire-making." By Walter Hough. (Illustrated.) "The following is a classification of the chief methods of fire-making by friction based upon the presumed order of development:

- | | | |
|---------------------------------------|---|--|
| i. On wood (reciprocating motion) by— | { | <ol style="list-style-type: none"> 1. <i>Simple two-stick apparatus.</i>—Indians of North, Central, and South America; Ainos, Japan; Somalis, Africa; most Australians, &c. The most wide spread method. 2. <i>Four-part apparatus, mouth drill, and two-hand drill.</i> Eskimo, some Indians, Hindoos, and Dyaks. 3. <i>Compound, weighted drill.</i>—Iroquois and Chukchis. |
|---------------------------------------|---|--|

- ii. On wood (sawing motion) Malays and Burmese.
- iii. On wood (ploughing or planing motion) } Polynesians; some Australians.
- iv. Of minerals (percussion) {
 - 1. With pyrites (or stone containing iron) and flint. Eskimo and Indians of the north (Algonkian and Athapascan stocks).
 - 2. Flint and steel.—Modern and disused methods and appliances."

"Iroquois Superstitions."

"THE AMERICAN ANTHROPOLOGIST," Vol. iv, No. 1, has a communication on "The physical characteristics of the Indians of the North Pacific Coast." By Franz Boas. Also an important (illustrated) paper on "Arrows and arrow-makers." By Otis T. Mason, and others.

"THE TRANSACTIONS OF THE AUSTRALIAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE," Melbourne, 1890, contains an article by Bolton S. Corney, Chief Medical Officer of Health, Colony of Fiji, on "Certain mutilations practised by natives of the Viti Islands," the operations being known by the names of Thoka losi, and Silindaku.

"THE AMERICAN ANTIQUARIAN," Vol. xiii, No. 1, contains an account of "The Great Cahokia Mound," by S. D. Peet (illustrated.) This mound is described as being situated with other earthworks about twelve miles from St. Louis, and as being the largest pyramid mound in the United States. During excavations, numerous relics have been disinterred, the patterns on the pottery being remarkably similar to those on the gravestones at Tennessee. "One specimen was especially interesting. It represented a squirrel holding in its paws a stick, the teeth placed round the stick as if gnawing it, the whole making a handle to the vessel. We noticed also a frog-shaped pipe made from sandstone, and many other animal-shaped and bird-shaped figures." The paper also gives a list of mounds formerly on the site of St. Louis, and of those near Evansville, Ind. Mention is also made of other pyramid mounds in the U.S.

"A weird mourning song of the Haidas." By James Deans.

"L'ANTHROPOLOGIE," Vol. ii, No. 1, contains "Tunisie. Les mégalithes de Bulla Regia. Les alignements de la plaine de la Medjerdah et les sépultures du Djebel Herrech." By Dr. Carton. The paper is carefully illustrated, and accurate measurements are given. The author in concluding draws attention to the great difference which exists between the stone tables of Bulla and the other remains equally termed "Mégalithes," such as those of Ellez. "Tandis que les premiers sont faits de blocs de grossiers, et que leur unique chambre est très irrégulière, les autres sont en dalles de formes plus géométriques, que ce soit ou non le résultat d'un équarrissage, et forment un système de chambres assez compliqué. Si les deux genres de mégalithes ont été construits par des

individus d'une même race, ils doivent certainement correspondre à deux phases différentes de l'évolution de celle-ci."

"De quelques cachettes découvertes dans le Finistère." By Paul du Chatellier. (Illustrated.) The paper gives a description of the discovery of gold and bronze ornaments, &c., in the Department of Finistère.

"Le Grec du Nord-Est de l'Asie Mineur au point de vue Anthropologique." By A. G. Néophytos. Contains the measurement of seven skulls. The author, however, does not draw any conclusions owing to the small number compared. In the second part of the paper, measures of the living subject are given, while the third part gives details concerning the colour of the hair and eyes.

"Cranes Modernes de Montpellier," by G. de Laponge, is a continuation of a paper in the "Revue" (November 15th, 1889), giving a series of measures of skulls removed from the burial ground of the convent.

Review of "Relations entre la Scandinavie et l'Europe occidentale avant l'ère Chrétienne." By Prof. Oscar Monteliers. (Illustrated.)

"Ethnographie précolombienne du Venezuela, region des randals de l'Orénoque." Paris, 1890. By Dr. Marcano. The review of this work states that the author describes the races which inhabited the ancient Spanish Guyana comprised between the Atlantic and the Esquibo on one side, and the Rio Negro on the other. After great difficulty fifty-two skulls of males, and forty-three of females were obtained, and the measurements are given. Important rock carvings are stated to have been discovered.

"Notes anthropométriques sur les indigènes du Turkestan." Par A. Bogdanoff. Thirty-two individuals are stated to have been measured, 10 Ouzbegs, 4 Tadjiks, 8 Sartes, 6 Persians, 1 Turk, 1 Kizilbach, 1 Tartar (cross-breed), and 1 Kiptchak.

Among the "Notes" are articles on "The Bronze Age in Egypt," and "New Researches on the Etruscan Language."

"THE JOURNAL OF THE ANTHROPOLOGICAL SOCIETY OF BOMBAY," Vol. ii, No. 1, contains an article on female circumcision among the Somal, also the address of the President, Dr. W. Dymock, on "India as a field for anthropological research." The chief subjects for enquiry are here stated to be the future religion of the educated classes, fetishism, caste, and the progress of medicine. In conclusion, the author urges on the Society the paramount importance of the establishment of an Anthropometric laboratory. The other papers are:—"On Superstitions of the Goa people from Portuguese sources," by E. Rehatsek; on the "Narcotics and Spices of the East," by Dr. W. Dymock; and on the "Towers of Silence in India," with illustrations, by Bomanjee Byramjee Patell.

"SCIENCE," February 6th, contains an article on the "Study of Indian languages," by J. W. Powell, in which is a list of fifty-eight family names, with the *habitat* of each. Also an article (with table) on "Hereditary deafness: a study," by Job Williams.

THE "BULLETIN OF THE ANTHROPOLOGICAL SOCIETY OF BRUSSELS," Vol. viii, contains a communication (with two plates) by MM. W. de Pauw and E. van Overloop, on the "Prehistoric workshops of Spiennes."

Also a paper by M. de Puydt on excavations on the prehistoric station of Latinne, called "Cité Davin," carried out in March, 1889. (Illustrated.)

A contribution towards the study of the anthropology of the Congo near the Falls. (4 plates.)

A plate illustrating a find of flint implements at Moulin de la bruyère, near Rickheim (Belgian Limbourg).

A plate illustrating various fan-shaped arrowheads in flint.

Photographs (full face and profile) of three Samoan natives, island of Tutuila, with measurements. By M. Houze.

"THE PROCEEDINGS OF THE ASIATIC SOCIETY OF BENGAL," No. 1, January, 1890, contains an illustration with description of the Thibetan Zodiac. By Babu Saratchandra Dás.

No. 7, 1890, contains a description of a stone recently found at Mudga'-Asráma (Kashta-harani ghát), Mungir. (Illustrated.) By L. A. Waddell.

No. 9 contains a description (illustrated) of a birch bark manuscript found by Lieut. Bower near Kuchar in Kashgaria. Most of the letters are stated to correspond with the ancient Newari and Wartula characters, but the manuscript remains untranslated.

No. 10 contains a note (figured) on the Maniktham monolith in the Puraniya district.

"THE JOURNAL OF THE ASIATIC SOCIETY OF BENGAL," Vol. lviii, Part 1, No. 3, 1889, consists of a paper by Vincent A. Smith, Bengal C.S., on "Græco-Roman influence on the Civilization of Ancient India." (With four plates.)

"THE JOURNAL OF THE ASIATIC SOCIETY OF BENGAL," Vol. lix, Part 1, No. 1, 1890, contains a grammar of the dialect of Chhattísgarh, in the Central Provinces. Written in Hindí by Mr. Hírálál Kávy-opádhyáya, headmaster of the Anglo-vernacular school in Dhamtarí, District Raipur, Central Provinces, translated and edited by G. A. Grierson, Esq., C.S. The introduction states "Chhattésgarh (the thirty-six forts) is the name of the most eastern of the divisions of the Central Provinces. It is bounded on the north by Chutiyá Nágpur, on the east by Orissa, and on the south and west by other portions of the Central Provinces. The language spoken in this tract belongs clearly to the Eastern Gaudian family. It may be classed as a dialect of Bihárá. Its verbal forms are most closely connected with those of Baiswárá, while its system of declension more closely resembles that of Bhoj'purí. In one important point, the formation of the plural, it shows a close connection with Uriyá."

"Notes on a Buddhist Monastery at Bhot Bágán (Howrah), on two rare and valuable Thibetan MSS. discovered there, and on Púran Gir Gosaim, the celebrated Indian Aéhárya and Government Emissary at the court of the Tashi Lama, Thibet, in the last century." By Gaur Dás Bysack. (With two plates.)

"JOURNAL OF THE ROYAL SOCIETY OF ANTIQUARIES OF IRELAND," No. 3, Vol. i; contains a paper by Seaton T. Milligan, M.R.I.A., on "Some recent cases of remarkable longevity," with portraits of Mrs. Kate M'Grath, aged 102 years, Mrs. Branney, aged 107 years, and Mrs. Peggy Elliot, aged 107 years.

Vol. i, No. 4, 5th Series, describes Cromlechs at Malinmore; and Crosses at Glencolumbkille are described and illustrated. Also two hitherto undescribed inscriptions in Irish at Clonmacnoise. (Two illustrations.) By W. A. Wakeman.

"TRANSACTIONS OF THE ROYAL SOCIETY OF EDINBURGH," Vol. xxxv, Part 4, contains an important article, illustrated with two coloured and five uncoloured plates, on "*Strophanthus Hispidus*." By Dr. Thomas R. Fraser. The author describes eight arrows coated with this poison, and enters most minutely into the details relating to its chemistry, toxic power, and botanical description.

"THE PROCEEDINGS OF THE SOCIETY OF ANTIQUARIES OF SCOTLAND," Vol. xi (N.S.), contains "Notes of a visit to a terp mound at Aalzum, in North Friesland, Holland." By R. Munro, M.D.

"Notes on cup-marked rocks in various localities." (Illustrated.)

"Primitive implements, weapons, ornaments, and utensils from Wigtownshire." By Sir Herbert E. Maxwell, Bart., M.P., F.S.A. Scot. (Fully illustrated.)

"Sculptured stones at Kirk Andreas, Isle of Man, one bearing an inscription in bind-runes; with notices of other bind-rune inscriptions." By G. F. Black (illustrated), together with other papers.

"THE TRANSACTIONS OF THE ASIATIC SOCIETY OF JAPAN," Vol. xvi, Part 2, contains "Specimens of Ainu Folk-lore." By Rev. J. Batchelor.

"PROCEEDINGS OF THE ROYAL GEOGRAPHICAL SOCIETY," January, 1891. It is stated that Mr. J. Theodore Bent has decided to make an expedition to the ruins of Zimbabwe in Mashonaland, under the auspices of the British East African Company and the Royal Geographical Society.

M. Coudreau is stated to have surveyed about 450 miles on the Oyapock, French Guiana, and to have collected 2,500 words of the Oyampi language.

"THE ARCHAEOLOGICAL JOURNAL," No. 188, 1890, contains a paper (illustrated) on "Roman Antiquities of the middle Rhine." By Prof. Bunnell Lewis, F.S.A. The more important objects described being the Mithraic Tablet at Wiesbaden and a mosaic pavement at Darmstadt.

"FOLK-LORE," Vol. ii, No. 1, contains the opening address by G. L. Gomme. "Magic songs of the Finns," by Hon. J. Abercromby. "The legend of the Grail," by M. Gaster. "A description of the Servian national custom, 'Šlava' (literally, glory and celebration)," by Col. Grant Maxwell. "Bhuridatta," a Buddhist legend, by R. F. St. A. St. John; with other communications.

"THE PROCEEDINGS OF THE SOCIETY OF BIBLICAL ARCHEOLOGY," Vol. xiii, Part 4, contains a paper by Miss L. Macdonald on "Inscriptions relating to sorcery in Cyprus."

"THE BULLETIN OF THE ANTHROPOLOGICAL SOCIETY OF PARIS," Vol. i, Part 1, 4th Series, contains a paper on "Anthropological observations made by Count Teleki on certain tribes in East Central Africa," a careful description of some of the customs of the Masai being given.

Also a communication by M. Dorlhac de Borne, on the Gaboon. Pure-blooded natives are said to be dying out, and in their place numerous tribes have entered the country.

The preparation of manioc and other food is described, also the dance called Okoukoué, with other ceremonies.

Part 2 contains, among other papers, one on the mountain region of Eastern Africa, by E. Verrier; a social study of the natives, with map of the district extending from Abyssinia to the Zambesi, and from the coast to the great lakes. Also replies to anthropological and ethnographical questions on the natives of Kafiristân, by Guillaume Capus. M. Paul Bataillard describes the emigration of the Tsiganes (Gypsies) in the 15th century.

Part 3 contains an article by M. A. Dumont on the birth rate in the Canton of Fouesnant (Finistère); Notes on a tumulo-dolmen near Arles, by M. Nicolas; A description of Punic tombs at Carthage, by Dr. Fauvelle (illustrated); also an account of the neolithic workshops of Corneilles-en-Parisis (Seine et Oise). Illustrated.

"THE MEMOIRS OF THE ANTHROPOLOGICAL SOCIETY OF PARIS," Vol. iv, 2nd Series, Part 2, contain papers on the pre-Columbian Ethnography of Venezuela, by Dr. Marciano. (Illustrated.) Also on the retro-version of the head of the tibia and the human attitude in the Quaternary period, by Dr. Manouvrier.

"THE JOURNAL AND PROCEEDINGS OF THE ROYAL SOCIETY OF NEW SOUTH WALES," Vol. xxiii, Part 2, pp. 335-449, contains an article on "The Australian Aborigines." By Rev. John Matthew, M.A. (With plate and map.)

Mr. Matthew states "having expressed the conviction that the aborigines of Australia were Papuan, and that they were the ancestors of the Tasmanian race so recently extinct, I now propose to verify this hypothesis by presenting converging lines of cumulative evidence. There are proofs adducible from physiology, mythology, implements, customs, and language, some more decisive and striking than others, but when combined, so varied and powerful as, I think, to render my position incontestible."

Also "The Aborigines of Australia," being personal recollections of those tribes which once inhabited the Adelaide Plains of South Australia. By Edward Stephens, Esq., pp. 476-503, with short vocabulary.

Vol. xxiv, Part 1, contains a paper by W. T. Wyndham, of Boyne Island, Queensland, on "Australian Aborigines: Varieties of food, and methods of obtaining it." A short vocabulary of the language of the Ucumble tribe is given of words relating to food and food supply.

"JOURNAL OF THE CHINA BRANCH OF THE ROYAL ASIATIC SOCIETY," N.S., Vol. xxiv, contains an article by Ernest Faber on "Pre-historic China."

This paper investigates the history of Chinese written characters as a guide to the history of the Chinese people. The section more intimately connected with anthropology is "Chinese Accounts of the History of their Earliest Civilization." The author states:—"As the I-king or book of changes is the highest authority for everything relating to human affairs among the Chinese, I shall begin with the few statements contained therein. In the Great Appendix we read—

(1) That in ancient times Pao Hi (commonly placed in the 29th century B.C.) invented—*a.* The Eight Trigrams; *b.* The knitting of strings of various kinds into nets for hunting and fishing.

(2) That Shin Nung (28th century B.C.) fashioned wood to form the share, and bent wood to make the plough handle. The advantages of ploughing and weeding were then taught to all under heaven.

(3) That he caused markets to be held at mid-day, thus bringing together all the people, and assembling all their wares at one place. They made their exchanges and retired, everyone having got what he wanted.

(4) That Hwang Ti, Yao and Shun (27th to the 23rd centuries B.C.), simply wore their upper and lower garments (as patterns to the people), and good order was secured to all under heaven.

(5) That they hollowed out trees to form canoes; they cut others long and thin, to make oars. Thus arose the benefit of canoes and oars, for the help of those who had no means of intercourse with others. They could now reach the most distant parts, and all under heaven were benefited.

(6) That they used oxen (for carts) and—

(7) Yoked horses (to chariots), thus providing for the carriage of what was heavy, and for distant journeys, thereby benefiting all under the sky.

(8) That they made the defence of double gates, and—

(9) The warning of the clapper, as a preparation against the approach of marauding visitors.

(10) That they cut wood and fashioned it into pestles; they dug into the ground and formed mortars. Thus the myriads of the people received the benefit arising from the use of this pestle and mortar.

(11) That they bent wood by means of string, so as to form bows, and sharpened wood so as to make arrows. This conferred the benefit of bows and arrows, and served to produce everywhere a feeling of awe.

(12) That in the highest antiquity men made their houses (in winter) in caves, and (in summer) dwelt in the open country. In ages subsequent to these, the sages substituted houses with the ridge-beam above, and the projecting roof below, as a provision against wind and rain.

(13) That when the ancients buried their dead, they covered the body thickly with pieces of wood, having laid it in the open country. They raised no mound over it, nor planted trees around, nor had they any fixed period of mourning. In subsequent ages the sages substituted for these practices the inner and outer coffins.

(14) That in the highest antiquity, government was carried on successfully by the use of knotted cords (to preserve the memory of things). In subsequent ages, the sages substituted for these written characters and bonds. By means of these (the doings of) all the officers could be regulated, and the affairs of all the people accurately examined." The paper is illustrated by explanatory wood blocks of various elementary Chinese characters.

"SIXTH REPORT ON THE NORTH-WESTERN TRIBES OF CANADA." (With map.) British Association for the Advancement of Science, Leeds Meeting, 1890. The committee state that they have been able once more to secure the services of Dr. Boas, who has drawn up the bulk of the report on the tribes of British Columbia, this being preceded by a linguistic map of British Columbian Ethnology by Mr. Horatio Hale. The coloured map gives the localities of the various tribes, and Dr. Boas enters minutely into their manners, customs, and religions. The volume contains accurate drawings of masks and paintings, with many songs, &c., set to music. An important section (illustrated) relates to "Deformed crania from the North Pacific Coast." The report ends with comparative vocabularies.

"THE SMITHSONIAN REPORT," NATIONAL MUSEUM, for 1888, contains, in the anthropological portion, the report on the department of prehistoric anthropology, by Thomas Wilson, Curator. Two plates are given of a "Flint implement of human manufacture, from the Equus Beds of the Tertiary Geologic period, San Diego, Texas," thus described:—"Another accession, which may prove of importance, is a flint implement of the rudest type, being merely chipped to a point, or with an edge not more than an inch in width, which was discovered half a mile from the town of San Diego. It was found by Mr. W. Taylor three or four feet under the surface in undisturbed layers. Mr. Taylor has found several other implements of the same kind, showing that this was not a solitary or isolated case. This implement becomes important from the fact

that it was found near the top of the equus beds of that district, which have become celebrated in the paleontology and geology of our country. The mylodon, glyptodon, elephas, and three species of equus, all extinct animals, have been found fossilized in these beds, and it seems agreed amongst scientists that these beds belonged to the Tertiary geologic period."

The volume also contains an important report (profusely illustrated) on "The coast Indians of Southern Alaska and Northern British Columbia." By Ensign A. P. Niblack, U.S. Navy.

The paper deals with the following:—(1) Chorography of Southern Alaska and Northern British Columbia; progress of ethnological work in this region—classification of Indian stocks—history. (2) Environment; organic and inorganic. Characteristics of Indians—Physical, emotional, intellectual, moral, and æsthetic. (3) Regulative organization: consanguineal, political, and industrial; origin of "Mother-rule" and "Father-rule"—totemism and tribal organization; chiefs, freemen, and slaves property; (4) Mutilations, primitive clothing, weaving, &c. (5) Food, implements and weapons, spears, traps, &c. (6) Landworks, temporary dwellings, villages. (7) Arts and industries, paintings, carvings, music. (8) Productions, locomotion, wealth, trade. (9) War and peace. (10) Vices and demoralization. (11) Shamanism. (12) Mortuary customs. (13) Feasts, dances, initiatory ceremonies, &c. (14) Traditions.

The following is given as a tradition of the creation and origin of man:—"The traditions and myths of the northern group of the North-west coast (Tlingit, Haida, and Tsimshian), are very similar, but with peculiar local variations. No attempt can be made here other than to outline the principal tradition of the creation and of the origin of man, and that only to illustrate the general character of their beliefs and ideas. In their legends and traditions we have the unconscious expression of their religious, moral, and æsthetic ideas, their views of life and death, their cosmogony and astrology, their fanciful biographies and histories, and their explanations of all the phenomena of nature. Related round the log fire in the family circle, with loud and confident voice, with laboured and dramatic imitations and gestures, and listened to with rapt attention by the inmates of the lodge, they represent the history of human thought—the blind gropings of the mind to know—in this narrow pocket of the world, and as such are as worthy of careful compilation and study as if they were facts of veritable history. The creator of all things and the benefactor of man was the great raven called by the Tlingit Yetl, Yeshl, or Yeatl, and by the Haida Ne-kil-stlas. He was not exactly an ordinary bird, but, like all old Indian mythical characters, had many human attributes, and the power of transforming himself into anything in the world. His coat of feathers could be put on or taken off at will like a garment, and he could assume any character whatever. He existed before his

birth, never grows old, will never die. Numerous are the stories of his adventures in peopling the world, and giving to man the earth, fire, fresh water, life, fish, game, &c. According to the Haida and Kaigani the first people sprung from a cockle shell (*Cardium corbis*, Mart). Ne-kil-stlas became very lonely and began to look about him for a mate, but could find none. At last he took a cockle shell from the beach, and marrying it, he still continued to brood and think earnestly of his wish for a companion. By-and-by he heard a faint cry in the shell, which gradually became louder till at last a little female child was seen, which by degrees grew to be a woman and married the raven. From this union came all the Indians of this region, who at first lived in darkness and want. As they multiplied, Yetl or Ne-kil-stlas endowed them with the various gifts of light, fresh water, fire, &c. All these were in the possession of the chief evil spirit, a great chief, the uncle of Yetl, who lived on the mainland where the Nass river now is. He was master of the tides and had great power, and the stories of how Tetl circumvented him are numerous and interesting. The Haida name for this uncle is Setlm-ki-jash, the Tlingit designation being Kees-du-je-al-ity Kah or Keesshusaah Ankow. He had a wife and sister, or according to some versions, a wife and daughter. Of his wife he was very jealous, and whenever for any reason he was away from home, hunting, fishing, or working, he imprisoned her in a box or basket, and tied her up to the rafters in the lodge, setting a number of little red birds to watch her. If by any chance the box was opened, the birds would fly to him and warn him. He was also very jealous of the posterity of his sister (or daughter), whose children he killed for fear that when they grew up they would prove rivals to him in his wife's affections. According to the Haida tradition, he threw her progeny into the fire; according to the Tlingit, he drowned them. This sister (or daughter) was not allowed to eat or drink anything until the chief had examined it, as she had become pregnant from eating certain things many times before. As every part of the house was so jealously guarded, Yetl or Ne-kil-stlas did not know how to get in to steal the various things he wanted for the good of man, but finally he hit upon the plan of being born into the family. One day he saw the sister (or daughter) go to the brook to get a drink, so transforming himself into a drop of water (or spear of cedar or blade of grass), he eluded the vigilance of the chief and was swallowed by the girl, and in due time Yetl was born to her as a son. She concealed the fact of his birth from the chief for some little time. In ten days time he grew to almost man's size. His mother taught him many things, amongst others, the use of the bow and arrow, and he became an expert shot. With his arrow he killed the magical crane whose skin enabled the wearer to fly, and the diver with whose skin he could float. One day the chief discovered Yetl and pretended to be pleased with him, but he took him out in a canoe and threw him overboard. Yetl, having on his diver's

skin, walked along the bottom and met his uncle on shore. Next the chief threw him into the fire, and piled logs on him, but having on a magic cloak he came out of the fire unharmed. One day when the chief was away, he opened the box in which his wife was confined and released her, but the little birds flew to him and informed him. The chief returned in a great rage, but Yetl sat calmly without noticing him. This was too much for the master of the tides, so he commanded the floods to rise and destroy this impudent meddler. But Yetl, giving his mother the skin of the diver to enable her to swim, himself put on the skin of the crane. The salt water rose until it began to come in the door, when the chief put on his tall dance hat which made him amphibious, and Yetl flew out through the smoke-hole. As he flew, he began to tire, and was compelled to come back from time to time to rest on the chief's dance hat, which was the only thing visible, till finally he gained strength enough to fly to the sky, which he pierced with his beak and hung to until the tide reached to his wings, when it began to subside. Finally he let go of his hold, and, flying for some days, he lit on a bunch of kelp to rest. At this point the story varies so much in different localities that it is difficult to make it at all general. According to the Kaigani Yetl descended into the sea and rescued his mother from the lord of the tides; according to the Tlingit, a sea otter carried him ashore from the kelp; according to the Stikine Indians, he lit originally on the Queen Charlotte Islands, and picking up pieces of the Douglas pine in his bill, he flew over the other islands, and wherever he let fall a piece of this wood, the Douglas pine is now found. Fresh water he stole from the lord of the tides by strategy; also the new moon. In the carved column (figured) one of the figures represents Yetl with the new moon in his bill and the dish of fresh water in his claws, in illustration of this part of the legend.

"He also stole the sun and the stars from the boxes in which they were imprisoned by the lord of the tides. When the sun shone forth for the first time all the people were frightened and ran in all directions; some of them into the mountains, some into the woods, and some into the water, and all of these were transformed into animals according to their hiding-place. Fire he obtained from an island in the sea. He reached there by the help of his magic bird skin, and seizing a burning brand in his beak he started back; but the journey was so long that nearly all the wood burned up, and even the point of his bill was scorched black, and he had to let it drop. The sparks flew over the ground in all directions. From this time both the wood and stone contained fire, which can be obtained from the one by striking it, and from the other by rubbing. Endless are the details of the adventures of Yetl, not to mention the other traditions and myths which no one Indian can ever learn. Many of them are remembered simply as bearing on or relating to the totem of the individual. In general their belief is in indwelling spirits. The sea, the woods, and the air are

peopled with them. All the phenomena of the universe are attributed to their action, and most of the rites of these Indians of a religious nature are in the direction of propitiating them. It is not the purpose here to treat of the traditions, myths, and beliefs of the Indians. The subject is of worthy study, and will undoubtedly receive the attention it merits."

A short bibliography is added.

"Fire-making apparatus in the U.S. Museum," by Walter Hough, is treated (and illustrated) under the following heads:—

(i.) Fire-making by reciprocating motion.

1. Simple two-stick apparatus; Indians of the two Americas, Ainos, Somalis, Kaffirs, Veddahs, Australians, &c.

2. Four-part apparatus: Eskimo, some Indians, Hindoos, and Dyaks.

3. Weighted drill, with spindle whorl; Iroquois and Chukchis.

(ii.) Fire-making by sawing.

Malays, Burmese, &c.

(iii.) Fire-making by ploughing.

Polynesians, Australians, and Papuans.

(iv.) Fire-making by percussion.

1. With pyrites, or stone containing iron and flint: Eskimo and Northern Indians.

2. With flint and steel: General.

(See also "American Anthropologist," Vol. iii, No. 4.)

"A study of prehistoric anthropology." Handbook for beginners. By Thomas Wilson. The author states that the reason for its publication is that "No general work on this subject applicable to the United States is easily attainable. Many requests have been received by the author for elementary information. It was found impossible to give satisfactory answers by letter, and this paper has therefore been written as an answer to serve temporary purposes until a more complete work shall have been prepared." The article is fully illustrated.

"Results of an inquiry as to the existence of man in North America during the palæolithic period of the stone age." By Thomas Wilson. (Illustrated.) The paper contains replies to a circular issued by the Smithsonian Institution.

"THE SMITHSONIAN REPORT," 1888, contains the bibliography for 1887 and 1888, by Otis T. Mason.

Also an article on the name "America," by Jules Marcon. The author claims that the name "America" was taken from the mountain range and India tribe at the centre of the continent, and brought into general use by the people who had been there." The tribe referred to is described thus:—"The Amerriques tribe of Indians, now few in number, are confined to their mountains, called Sierra Amerrique, which form the cordillera between Lake

Nicaragua and the Mosquito coast, in the province of Chontales, Nicaragua."

"THE TRANSACTIONS OF THE CANADIAN INSTITUTE," Vol. i, Part 1, October, 1890, contain a communication "on the Hurons," by D. B. Read, Q.C. The author states the following facts with regard to their history:—"The Huron nation, which occupied all the territory forming the peninsula between Lake Ontario and Lakes Huron and Erie, was a nation within a nation. The great Algonquin family of Abenakis claimed all the territory extending from the St. Lawrence to the Rocky Mountains. Mr. Schoolcraft, the distinguished American ethnologist, has classified the North American Indians as follows:—1st, Northern, extending from the Atlantic to the Pacific Ocean. 2nd, East of the Mississippi and the Rocky Mountains. 3rd, West of the Mississippi and the Rocky Mountains. 4th, West of the Rocky Mountains. These embrace altogether thirty-seven families, under which there are numerous subdivisions. He gives the name of the Iroquois as one of the subdivisions, but does not name the Hurons, which goes to establish that he considered the Hurons as a branch of the Iroquois. . . . How long the Hurons had been in the possession of their hunting grounds in the vicinity of Lake Huron is not known with any degree of certainty, but that they had been there for many decades, and it may be for many centuries, is evident from the fact that when Champlain, in the year 1611, established the frontier trading post of Montreal, he at once set about arranging for trade with the distant Hurons, a large and populous tribe. It has been computed that, at that time, not less than 1600 of this aboriginal people occupied the forest home of the Hurons."

"JOURNAL OF THE ROYAL INSTITUTION OF CORNWALL," Vol. x, Part 2, contains an article on "A Large Inscribed Stone, from Iquique, South America." The markings consist of rude representations of human feet, animals, &c., and the author, Mr. Henry Crowther, makes the following suggestion as to the interpretation:—

"The stone probably relates the deeds of a king who carried his people from a northern settlement to a land of plenty, amongst the lakes of South America. They were opposed by enemies whom they passed, and by others whom they avoided. Near these lakes, around which the mountains ejected fire, they formed a settlement, and offered up sacrifices to the Spirit of the Universe."

The volume also contains an article on "Some Recent Archaeological Discoveries in Cornwall." (6 plates.)

"SCULPTURED ANTHROPOID APE HEADS, found in or near the valley of the John Day river, a tributary of the Columbia river, Oregon," by James Terry. (4to. 5 plates.) The author states:—"These three specimens were found in or near the valley of the John Day river, a tributary of the Columbia. They would be classed by archaeologists as surface finds, a classification which would cover a large proportion of the archaic remains of the valley, from the fact that the shifting sand dunes, which were largely

used for burial purposes, are continually bringing them to the surface and exposing them. Each specimen is clearly a complete object in itself, never having formed a part of any large sculpture from which it might have been detached or broken. They were carved from a dark, pumiceous, basaltic rock, abundance of which is found in the valley."

"*ARCHÆOLOGIA*," Vol. lii, Part 1, contains "Recent Researches in Barrows in Yorkshire, Wiltshire, Berkshire, &c.," by Rev. William Greenwell, F.R.S. The scope of the paper is thus described by the author:—"Subsequent to the publication of *British Barrows* in 1877, which recorded the opening of 234 sepulchral mounds, situated in six counties, all, with the exception of Gloucestershire, in the North of England, I have examined 61 in addition. I propose in the following account to give the precise details of the exploration of these Barrows, in order that the facts then observed may be put on record and made available for the use of those interested in this important branch of our native archæology." (34 illustrations.)

Also a paper on the exploration of a Barrow at Youngsbury, near Ware, Herts, by John Evans, F.R.S., President.

"*THE PROCEEDINGS OF THE SOCIETY OF ANTIQUARIES*," London, Vol. xiii, No. 2, contains a paper by Gen. Pitt-Rivers on models of ancient monuments, and on some points in the development of the Celtic Cross in Scotland, illustrating his remarks with a fine series of over 40 models of Crosses, &c., all made to a uniform scale.

"*REVUE MENSUELLE DE L'ECOLE D'ANTHROPOLOGIE DE PARIS*." No. 2 contains an article by M. Laborde, "Les fonctions intellectuelles et instinctives." (3 plates.) "Chronique préhistorique," par Gabriel de Mortillet. Also other papers.

No. 3 contains "*L'Evolution Mythologique*," by Ch. Letourneau, and other notes.

"*THE PROCEEDINGS OF THE BOSTON NATURAL HISTORY SOCIETY*," Vol. xxiv, contains an article on "Palæolithic Man in Eastern and Central North America" (Part 3, 6 plates), by various authors. The subject is divided into (1) Early man in the Delaware valley:—The rock shelter at Naaman's Creek; Palæolithic implements from the Delaware gravels; (2) Implement from the Indiana gravel; (3) The age of the Philadelphia red gravel; (4) Waterworn implements from the Delaware River; (5) Concluding remarks, with illustrations from Delaware, Indiana, New Jersey, and Minnesota.

"*RECORDS OF THE GEOLOGICAL SURVEY OF NEW SOUTH WALES*," Vol. ii, Part 2. The number contains "Notes on the shell heaps or kitchen middens accumulated by the Aborigines of the Southern Coastal District" (2 plates), by William Anderson. Also "Descriptions of some stone weapons and implements used by the Aborigines of New South Wales," by the same author; and "On some beautifully formed stone spearheads from Kimberley, North-

West Australia," (with plate) by R. Etheridge, Junr. The author concludes his paper as follows:—"We have thus in Australia at least four, and perhaps five types of wholly or partially stone-headed spears. (1) Simple double-edged, lanceolate, three-faced heads, with a more or less entire margin. Melville Island, Port Essington and Cape York. (2) Double-edged, three-faced, lanceolate heads, with the cutting edges serrated in a greater or less degree, North West Australia; (3) Wooden spearheads barbed on both sides with fragments of sharp stone, and called Karkuroo, Mongile, or Wal. Great Australian Bight to Grampians in Victoria; (4) Wooden spearheads barbed on one side only, called Gidjee, &c., Western Australia; (5) Well shaped, rounded, and pointed polished heads of greenstone, North Australia."

"ARCHIV FÜR ANTHROPOLOGIE," Vol. xix Part 4, contains, with other papers, an important bibliography of anthropological and other literature.

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mon côté je continuerai à vouer les plus grands soins à la typographique comme aux illustrations, j'ose renvoyer aux reproduits ci-dessous pour donner une idée de ce qui a été qu'ici sous ce rapport et quelle a été l'opinion de la presse.

IDE, Février 1891.

P. W. M. TRAP.

Extraits de l'opinion de la presse.

aufrechter Freude haben wir das Erscheinen dieser Zeitschrift begrüsst; aber doch ein neuer Beweis dafür wie rasch das Wachsen und Emporblühen noch so jungen Wissenschaft ist. Eine Anzahl von Männern, deren in der wissenschaftlichen Welt wohl bekannt sind, haben sich zusammen um unter bewährter Führung ein Organ zu gründen, das in Bezug auf mit guten Abbildungen selbst weitgehenden Ansprüchen genügen nur einigermaßen über die Kosten der Herstellung guter Farbentafeln weiss, der wird die Uneigennützigkeit des Herrn Verlegers, der das streiten dieses schönen Unternehmens ermöglichte, zu würdigen wissen.

Mitt. d. Wiener Anthr. Gesellsch. Bd. 18, 1888.

h Inhalt und Ausstattung gehört dies neue „internationale Archiv für Ethnographie“ zu den hervorragendsten Leistungen auf ethnographischem Gebiet. Es ist ein ausserordentlich geringer; und so hofft Ref., dass das Blatt die Verbreitung erlangt. Es verdient sie durchaus.

G. GERLAND.

Deutsche Literaturzeitung. N^o. 36. 1888.

seit den 60er Jahren in der Entwicklung begriffene Ethnologie ermannt sich eines derartigen Organes, wie es alle verwandten Wissenschaften sehr zum Bedauern und zum Nachtheil aller betheiligten Forscher. Die im Sinne anthropologischen Arbeiten, welche man gewöhnlich auch nicht ethnographie zuzählt, sowie die, einen selbständigen Forschungszweig bildende, neuen Organen nicht arme prähistorische Forschung sind von dem neuen Unternehmen ausgeschlossen. Reisebeschreibungen ist ein Raum gegönnt.

hegen keinen Zweifel, dass das Unternehmen, das in so vorzüglichen ruht, glücken wird, und hoffen von ihm für die Entwicklung der Wissenschaft das Beste.

M. U.

Litterarisches Centralblatt Leipzig. N^o. 27. 1888

die die treffliche Zeitschrift auch ferner sich entwickeln und zahlreiche Leser gewinnen.

Deutsche Geographische Blätter.

bisher durchweg, stehen auch die beigelegten Tafeln auf der Höhe der. Wir dürfen es wohl aufs Neue aussprechen, dass das Internationale für Ethnographie bereits der unentbehrliche Mittelpunkt dieser jungen, bedeutungsvollen Wissenschaft geworden ist.

Natur, Halle a/S.

in einem Rückblicke auf den vollendeten Jahrgang kann man nur mit hoher Anerkennung von demselben sprechen; um so mehr, als das Archiv es nicht bei in Ethnographischen trocken bewenden liess, sondern auch, wo es sich in das kulturgeschichtliche Gebiet hinüber schweifte und damit dem Leben gab. Es kann nur eine Stimme darüber geben, dass es im höchsten bedauernswerth sein würde, sobald das so schön geleitete Unternehmen regel an Theilnahme wieder eingehen sollte.

Natur, Halle a/S.

en dürfte eine wissenschaftliche Zeitschrift bei ihrem Erscheinen von den Lehren und den Freunden eines Wissenszweigs im allgemeinen freudiger worden sein und selten haben sich die Hoffnungen und Erwartungen, an das Erscheinen einer solchen knüpften, in dem Masse verwirklicht, dem von J. D. E. SCHMELTZ, dem Konservator am Ethnographischen Reichsmuseum in Leiden redigierten „Internationalen Archiv für Ethnographie.“

Natur, Halle a/S.

C'est là un périodique qu'il convient de signaler avec distinction. Sans doute, il y a déjà plusieurs revues d'ethnographie, comme en France celle du Dr HAMY; mais le nouveau recueil a des caractères qui le distinguent nettement des autres et lui donnent une valeur toute particulière. Tandis que la plupart de ces revues traitent de toutes les sciences qui ont du rapport à l'ethnographie proprement dite, ethnologie, linguistique, anthropologie, etc., le nouveau périodique s'est donné comme tâche de s'occuper exclusivement de ce qui est l'objet de l'ethnographie proprement dite: la civilisation. Les ethnographes les plus distingués du monde entier ont promis leur concours au nouvel organe, lui assurant ainsi une rédaction tout à fait supérieure. Cette revue nous semble destinée à faire faire de grands progrès à l'ethnographie.

Polybiblion. Paris.

Nous avons reçu trois nouveaux fascicules de cet organe bimensuel, dont nous avons annoncé l'apparition dans l'un des derniers numéros de la Revue. J'avais signalé à ce moment toute l'importance de cette publication, les derniers numéros ne le cèdent en rien aux premiers, c'est le même luxe de composition, la même exactitude dans la représentation des objets tant par les planches en couleurs que par les dessins dans le texte. La période du début étant maintenant passée, tous ceux qui s'intéressent à l'ethnographie trouveront dans cette magnifique publication un guide sûr pour se tenir au courant des progrès de la science.

... La savante et luxueuse publication entre dans sa deuxième année et nous sommes heureux d'en constater le succès.

Le Livre.

J. D. E. SCHMELTZ of Leyden, commences the second volume of his sumptuously illustrated Internationales Archiv für Ethnographie. Under the heading "News and Correspondence" the editor keeps his readers well informed as to ethnological work in all quarters of the globe.

The Athenaeum.

It contains contributions from all parts of the world, in German, English, French und Dutch, in which important collections or specimens are described, or in which the hitherto unknown use and meaning of well-known specimens are explained. The journal is illustrated by magnificent colored plates of great artistic value. Anthropologists will gratefully acknowledge the liberality of the publisher, who enables the editor to make the plates of the journal furnish information of and to making this department a valuable reference.

American Anthropologist.

Is de gedachte om zulk een tijdschrift op te richten alleszins practisch en gelukkig te noemen, en verheugen wij er ons over dat zij te Leiden, waar het eerste systematisch ingerichte ethnologisch museum (Rijks Japanisch Museum von Siebold) gesticht werd, is opgevat en uitgevoerd — de inrichting van het tijdschrift is van dien aard, dat zij veler behoeften kan bevredigen en zeer groot nut kan stichten.

Tijdschrift Aardrijkskundig Genootschap.

Van het „Internationales Archiv für Ethnographie," is de zesde aflevering verschenen en daarmede het eerste deel voltooid. Met dezelfde zorg en degelijkheid waarmede dit wetenschappelijk tijdschrift is opgetreden gaat het tot nu toe door, en het levert alle waarborgen, dat het ook verder eer zal blijven doen zoowel aan de redactie als aan den uitgever.

De breede rei der medewerkers, die werkelijk dien naam verdienen, de verscheidenheid der behandelde onderwerpen, de rijkdom der in de verschillende onderafdeelingen opgenomen wetenswaardigheden, bevelen dezen arbeid ten sterkste aan.

De Nederlandsche Spectator.

Het tweede deel van het „Internationales Archiv für Ethnographie" is thans volledig geworden door de 6e aflevering. Zoowel aan den wetenschappelijken inhoud als aan de smaakvolle uitvoering wordt bij voortduring dezelfde ijverige zorg besteed.

De Nederlandsche Spectator.

Bei der ganz vorzüglichen Ausstattung, welche man sonst nur bei Prachtwerken ersten Ranges antrifft, ist der Preis von 21 M. für den Jahrgang als sehr mässig zu bezeichnen.

Petermann's Mittheilungen.

Was aber bisher auf diesem Gebiete veröffentlicht worden ist, das unterlag naturgemäss einer unendlichen Zersplitterung; es fand sich in einer endlosen Zahl von Zeitschriften und Monographien zerstreut, von denen dem einzelnen Forscher viele nur mit grosser Mühe, andere überhaupt gar nicht zugänglich wurden. Mit grosser Freude und mit vollberechtigten Hoffnungen müssen wir daher die Gründung eines internationalen Archivs für Ethnographie begrüssen, in welchem jeder wissenschaftliche Arbeiter je nach seinem Belieben in deutscher, holländischer, französischer oder englischer Sprache die Ergebnisse seiner Forschungen niederlegen kann.

Für die Gediegenheit und Lebensfähigkeit des neuen Unternehmens bürgen einerseits die Herausgeber und namentlich der durch den classischen Catalog des Museums Godeffroy bekannte Redacteur, andererseits die ausserordentlich grosse Anzahl derjenigen, welche der neuen Zeitschrift ihre Mitarbeiterschaft zugesagt haben und von denen ein nicht geringer Theil durch seine Lebensstellung so recht mitten in der Fülle des wissenschaftlichen Materials steht.

Zeitschrift für Ethnologie. 1888.

Die neue Zeitschrift, deren erste vier Hefte uns vorliegen, ist ein neues erfreuliches Zeichen von dem raschen Emporblühen der so lange vernachlässigten Wissenschaft vom Menschen. Aus der Fülle des Stoffes, über welchen diese Disciplin ihrer Natur nach sich ausbreiten muss, greift das von einem gewiegten Fachmanne, dem Conservator des königl. ethnographischen Reichsmuseums zu Leiden, Herrn SCHMELTZ, unter Mitwirkung namhafter Gelehrter herausgegebene neue Organ gerade jenen Zweig heraus, welcher bisher allerdings etwas stiefmütterlich bedacht worden ist; wir meinen die beschreibende Ethnographie, welche sich zur Aufgabe stellt, die von heutigen Völkern herrührenden Gegenstände nach Material, Form, Anfertigung und dergleichen zu beschreiben. Kein Organ diente bisher in erster Linie diesem Zwecke, das „Internationale Archiv“, unternimmt es, diese Lücke auszufüllen; so weit die ersten zwei Hefte zu urtheilen gestatten, mit Verständniss und Geschick. Es begreift sich, dass eine solche Zeitschrift nicht an die grosse Menge der Gebildeten sich wendet, sondern auf die kleine Zahl der Fachgenossen berechnet ist, welchen sie, daran ist wohl kein Zweifel um so willkommener sein wird. Die Hefte erscheinen zwanglos und legen ein Hauptgewicht auf die beigegebenen Tafeln, deren Ausführung durch die besten Kräfte besorgt, in der That wahrhaft glänzend ist.

F. v. HELLWALD.

(Im Archiv für Anthropologie).

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J. D. E. SCHMELTZ,

Conservateur au Musée National d'Ethnographie de Leide.

Le fascicule double du tome IV, paraissant au mois de mars prochain, ouvre la quatrième année de cette Revue, qui depuis sa fondation a pu se réjouir d'un succès plus grand que je n'avais espéré. J'ose de nouveau la rappeler à l'attention de tous ceux qui s'intéressent au progrès de l'Ethnographie et les inviter à renouveler leur abonnement ou encore à y souscrire afin que la continuation plus que probable des „Archives” soit définitivement assurée.

Un regard jeté sur l'aperçu d'une partie des plus importants articles, fait assez voir que les efforts de la rédaction ont été encouragés et soutenus par un grand nombre des savants les plus compétents en ethnographie, qui n'ont pas hésité à lui confier la publication d'une série importante de travaux de grande valeur, sans parler des nombreux faits intéressants contenus dans les petites communications et dans les nouvelles souvent très précieuses émanant des musées.

Le nouveau volume sera de même riche en sujets intéressants comme on le verra dans le tableau des matières placé ci-dessous pour autant qu'il peut dès maintenant être dressé. Les rubriques „Musées et collections” et „Revue bibliographique” seront toujours traitées avec le plus grand soin afin de constituer pas à pas un inventaire des maté-

riaux ethnographiques répandus dans les musées les plus divers pouvant servir de guide au savant quand il s'agit pour lui de savoir où il doit s'adresser pour avoir à sa disposition les matériaux nécessaires pour quelque étude spéciale. La revue bibliographique s'appliquera à renseigner au plus vite sur toute publication moderne en fait de littérature ethnographique.

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